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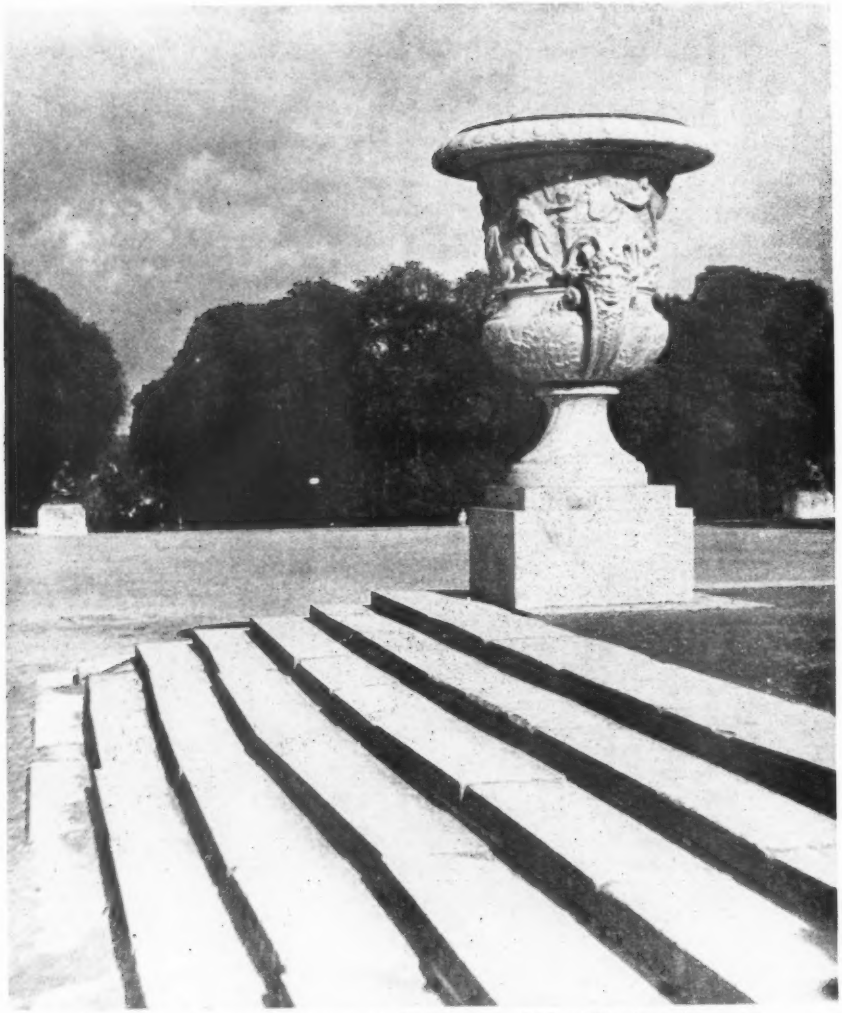


VERSAILLES. From a photograph by F. L. Preston [*A.*] exhibited at the recent Camera Club Exhibition

JOURNAL OF THE
ROYAL INSTITUTE *of* BRITISH ARCHITECTS

VOL. 45. 3RD SERIES 21 FEBRUARY 1938 No. 8

Journal

The Royal Gold Medal

His Majesty the King has approved the award of the Royal Gold Medal to Mr. Ivar Tengbom [*Hon. Corr. Member*] "in recognition of the merit of his work as an architect." The Medal will be presented to Mr. Tengbom at a General Meeting on 4 April at 8.30 p.m.

Annual Dinner and Social Evening

The annual dinner was held this year, as last, in the Henry Florence Hall. Something over three hundred members and guests were present to eat a dinner, to drink good wine, and to hear four good speeches. Sir Philip Sassoon, as First Commissioner of Works, is the architects' own Minister and a most suitable person to be the guest of honour and chief speech-maker at our annual dinner. If he and his department may be said to represent the facts of life, Sir Eric Maclagan, as director of the greatest art museum in the country, may be said to represent the fancies, and marvellously well he did represent them on Friday with a graceful, witty speech in which more than one dignified leg, even the leg of Mistress Art herself, was gently pulled. All the four speeches are printed in full elsewhere in this JOURNAL and all deserve reading in the light of day, even if, like beautiful women, their make-up was carefully designed for artificial light and the substance of their conversation adjusted to the environment of clinking glasses and not too serious celebration.

At the beginning of the week the Institute building was in use for another social affair, the large party organised by the Social Committee. A report of this is published on another page. In the opinion of everyone who was there—and there were 800 of them—it seems to have been the most successful show ever yet run by the committee, who now may really be said to have got into their swing. The dance, the play and Spanish dances by Senorita Emma Marques, and the exhibition of photographs, and indeed the cumulative entertainment to be derived from the sight and company of 799 other people doing the same thing enjoyably made up as good an evening's entertainment as the Henry Florence Hall has ever seen.

The Health, Sport and Fitness Exhibition

The Exhibition of Health, Sport and Fitness will be opened at the R.I.B.A. at 3.30 p.m. on 2 March by Lord Aberdare, Chairman of the National Fitness Council. Members of the Institute do not need cards of invitation to the opening nor to a lecture on the objects of the Exhibition by Mr. John Gloag [*Hon. A.*] which will be given after tea. This is the fourth large exhibition that has been staged in the new R.I.B.A. building. The first, in 1934, was the great International Architecture Exhibition, which, after travelling the length and breadth of the British Isles, has now come home, not to rest, but to complete other special shows and to form the nucleus of the permanent collection which now has in it, including pictures on tour, about four thousand photographs of contemporary architectural and town-planning subjects. The second big exhibition, the Everyday Things Exhibition, has been completely dispersed. The third, the Airports Exhibition, is still travelling around, and will be doing so for some time to come. Now for the fourth, which, like its predecessors, has a special topical meaning at the time of its inauguration. Unless the R.I.B.A. succeeds in getting across the message of this Exhibition, it is possible that the physical fitness campaign, while making physical gods and goddesses of young Britons, will make a deplorable mess of the many buildings and planning schemes that the campaign, if successful, will require, or at the least will fail to take advantage of the stimulus that good building and planning schemes can give to the good works that are carried on in and about them.

Library Readers' Tickets

As general knowledge of the usefulness of the R.I.B.A. Library increases we receive an increasing number of applications for readers' tickets from students, scholars, foreign visitors and others who are not members. It has always been a tradition of which the Institute is proud that its Library, created primarily for its own members, has been freely opened to everyone who is seriously studying architecture.

For many years now the issue of readers' tickets—familiarly known as "pink tickets"—has been organised on a system that was not designed for use on the scale of our present issues and which for some time has proved uneconomical of staff time and has failed to assure that all the holders are persons fully justified in being given the privilege. Exactly the same ticket on the same terms, or one might say absence of terms, was given, purely for complimentary reasons, to some distinguished friend who was never really expected to use it, to a serious architectural scholar or to a boy from an art school. The form which applicants were asked to fill up required no information whatever to be given of the applicant's claims and his sponsor did not even have to be an R.I.B.A. member.

The Literature Standing Committee recently recommended the Council, and the Council has agreed, to make the conditions of issue stricter by insisting that all applicants should have their form sponsored by a member. They have done this feeling certain that few outside readers who seriously require to make use of the Library will be unable to comply with this condition. Foreign visitors or students who do not know an R.I.B.A. member to back their application can apply direct to the Librarian and the Library Committee, who will be able to assess their claims. In the past all tickets were issued for a year; in future, to save time wasted in constant renewals, after the first year tickets will be renewed for two years and subsequently for five-year periods. This will be an obvious convenience for readers as well as staff. School students who are not probationers or students of the R.I.B.A. from certain accredited polytechnics, art schools and evening classes have been given tickets in the past. In future they will not be issued with tickets, but their headmasters will be given the authority to issue letters of introduction, the headmasters retaining full responsibility for their own pupil's proper use of the Library.

Maintenance Scholarships in Architecture

The Architects' Registration Council of the United Kingdom offer for award in June 1938 certain Maintenance Scholarships in Architecture. The Scholarships will consist of a grant for the payment, in whole or in part, of the school fees and necessary subscriptions, instruments, books, etc., and, when necessary, a maintenance allowance not to exceed as a rule £100 a year. The Scholarships will be renewable from year to year until the student has finished his or her school training. They will be available for students of British nationality who could not otherwise afford such training to enable them to attend architectural schools approved by the Council. The Scholarships will be available both for students who have already begun their training and for students wishing to begin their training. They would not normally be granted to students under 17 years of age. Particulars and forms of application may be obtained from the Secretary to the Board of Architectural Education, Architects' Registration Council of the United Kingdom, 68 Portland Place, London, W.1. The closing date for the receipt of applications, duly completed, is 21 March 1938.

Scientific Research and Building

The publication of the 1936-37 annual report of the Department of Scientific and Industrial Research gives a good opportunity of surveying the ways in which technical research is influencing building. Most architects have their noses so close to the grindstone that they can't look around to realise how the threads of building science stretch out on every side to join up with research work that may not at first sight seem to have anything to do with building but which may in time fundamentally affect the whole of building practice. Nor is it fully realised how greatly and in what various ways changes in technique change not merely the form of buildings but the whole constitution of the building industry. The D.S.I.R. report is worth reading because by interrelating the work of the various research departments it gives the only comprehensive picture of what is being done for us by the nation's research bodies: the B.R.S., whose work on the whole is known to architects; the Forest Products Research Laboratory, who are making long-term analyses of timber strengths which in conjunction with grading rules will render the strengths of timber structures as easily calculable as are those of steel and concrete; the National Physical Laboratory, who, together with the B.R.S., are investigating sound resistance with such success that the computation of "cost per square foot per phon" seems only a short way ahead. In addition to the work of these and the six other primary national research departments there is the work reported here of the twenty-one research bodies associated with the D.S.I.R., many of which, or it might be true to say all of which, are doing work that may and in some cases does refer indirectly to the work of our profession. The B.R.S. at the centre of our problems are investigating "Comfort Conditions," which means heating, ventilation, and thermal resistance combined; these subjects have been too long disassociated. They are also still tackling the incredibly complicated question of limes and plasters and also the effects of paints on them. Asphalt is another staple commodity, the technique of which they are seeking to regularise in conjunction with the asphalt industry. The recently started work on fire resistance, on which B.R.S. and the Fire Offices Committee are engaged, will remove yet another technical problem out of the realm of rule-of-thumb. The ultimate aim of all this research work is to simplify, codify, and render calculable all structural problems and the properties of all materials just as has already been done for architectural acoustics and structural steel.

[From the R.I.B.A. Camera Club's Exhibition. Photograph by Eric Jarrett

BUILDINGS CONNECTED WITH THE DAIRYING INDUSTRY

BY IORWERTH M. WILLIAMS, A.R.I.B.A. (Distinction in Thesis)

This article contains the second and third parts of a Thesis, submitted in the R.I.B.A. Final Examination, for which the author was awarded Distinction in Thesis. The full title is "Dairy Farms and Buildings connected with the Dairying Industry." The first part, entitled "Dairy Farms," was published in the R.I.B.A. JOURNAL of 14 August 1937, pp. 925-939. The Thesis is filed in the R.I.B.A. Reference Library.

DAIRY BUILDINGS FOR MILK TREATMENT

INTRODUCTION

The ideals which have been outlined for the construction of dairy farms exist in practice in very few dairy farms to-day. Farmers are not scientifically educated and have small financial resources, and herds are not as healthy as they ought to be. The public milk supply in the raw state is therefore not a safe one. It is contaminated by harmful bacteria, and medical men state that many diseases such as "bovine" tuberculosis can be attributed to impure milk.

Milk can be treated in various ways so as to free it from harmful elements, but authorities are not agreed as to whether or no treatment takes away valuable food elements from the milk. It is, however, far better to have a food lacking in some vitamins than to have one which is dangerous.

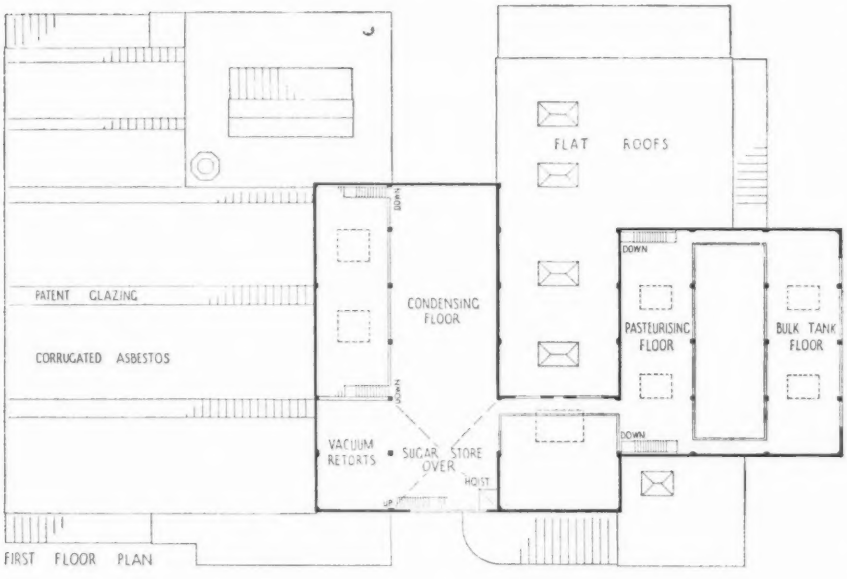
Several forms of protective treatment are in use. Before describing any particular process, or indicating what is considered to be the best, an outline is given of methods adopted in the past, together with the measure of success they have had and their development, culminating in the various methods and processes in use to-day.

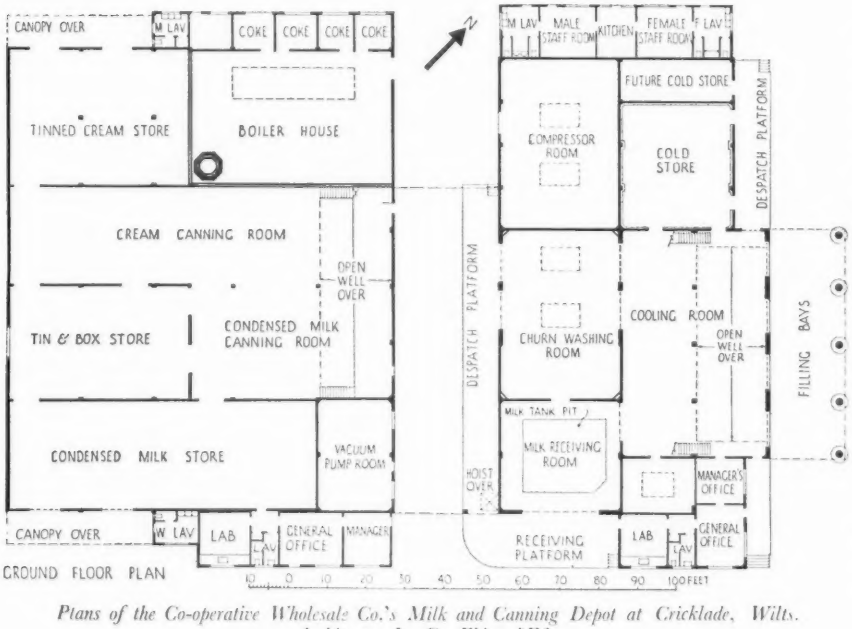
HISTORICAL OUTLINE

As early as 1745 a Roman Catholic priest, Needham, carried out experiments aimed at temporarily preserving milk by boiling so as to destroy the living organisms it contained.

Pasteur found it necessary to raise the temperature of milk to 230 deg. F. for two minutes to achieve sterility. With prolonged heating at 212 deg. F. he found a similar effect, but the method by prolonged heating was more lasting.

Further attempts in milk treatment were by the higher temperature process, the discoveries of Pasteur





Plans of the Co-operative Wholesale Co.'s Milk and Canning Depot at Cricklade, Wilts. Architect: L. G. Ekins [F.]

not being used for a considerable time.

About the year 1886 Nageli, of Munich, discovered a process of heating milk in bottles to a temperature ranging between 212 deg. F. and 248 deg. F. In the same year a scientist, Becker, discovered a process of low temperature pasteurization where the milk was heated for two hours at 140 deg. F.-158. deg. F. This latter method was used commercially but was unsuccessful because of the undesirable changes taking place in the milk on keeping. Nageli's process is similar to that in use to-day for the sterilization of milk in bottles.

There are many defects in early methods of milk treatment. The freedom from risk of disease was not assured, there was a loss of "cream line," which has a commercial effect, and the milk had an unpleasant taste.

Modern methods are far more satisfactory. There are seven types of milk treatment in use to-day in different parts of the world, while the continuous positive holding process is the only type recognised by the Ministry of Health, and is extensively used in this country. A brief outline of the various processes is given below :—

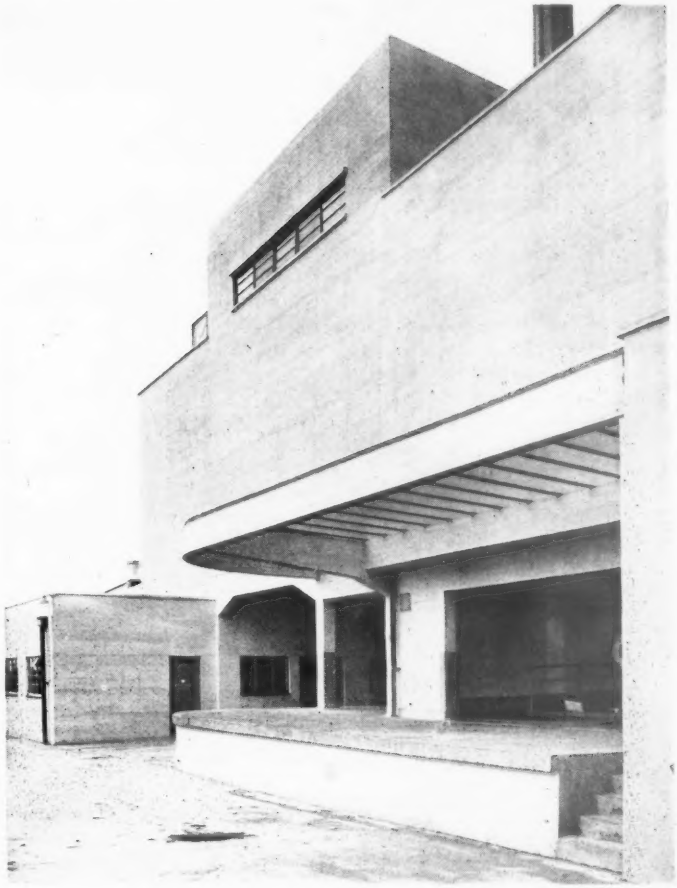
1. Sterilization in Bottles.
2. Flash Sterilization.
3. Flash Pasteurization.
4. Pasteurization in Bottles.
5. Batch Pasteurization.
6. Continuous Positive Holding Process.
7. Stassanisation.

I.—Sterilization in Bottles

In this process the milk is heated to a temperature of 212 deg. F. and is retained at that temperature for 30 minutes.

The milk is collected from the farms and delivered

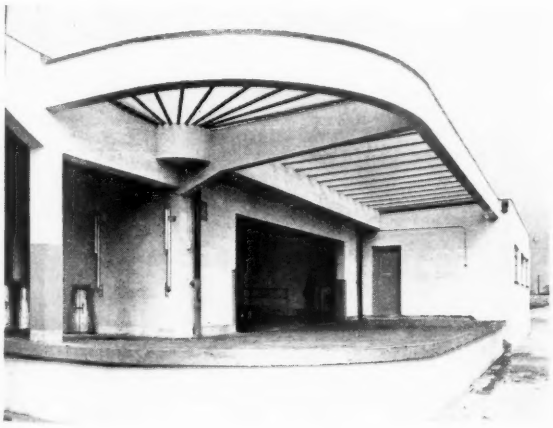
Right and below : Two views of the receiving platform of the Co-operative Wholesale Society's Milk and Canning Depot at Cricklade, Wilts. Architect : L. G. Ekins [F.]



to a central creamery, where preliminary treatment takes place. This consists of preheating and clarification in centrifugal clarifiers. The cleaned milk is then brine cooled down to 40 deg. F. It is then conveyed by means of glass-lined tanks, or rail or motor lorries, to the sterilizing dairy, which it should reach at a temperature of 42 deg. F. The milk is then pre-heated and homogenized by being pumped through a fine aperture at high pressure against an agate stone. This breaks up the cream globules and distributes them throughout the milk. Homogenized milk is rich and creamy, but there is no "cream line." This prevents separation of the constituents during sterilization.

The homogenized milk is then fed into tall long-necked bottles with swivel porcelain stoppers which have been previously sterilized. The filled bottles proceed to the sterilizer in steam chests where the temperature is gradually raised to 212 deg. F. The milk is maintained at this temperature for 30 minutes and the bottles are then air-cooled. The milk is now ready for distribution, it being held in hermetically sealed bottles with vacuum over the milk.

Milk treated in this manner is free from bacteria, and has good keeping properties,



but because of the high temperature required in the process it has a slightly objectionable appearance and taste.

2.—Flash Sterilization

This is a similar process to flash pasteurization, except that the milk is raised to a higher temperature. The fundamental difference between sterilization and pasteurization lies in the fact that in the former method a very high temperature is used, which aims at the destruction of all bacteria, with a total disregard of other changes, while the latter method aims at the destruction of all pathogenic bacteria, whilst at the same time preserving the appearance, flavour and food values of the milk as far as possible.

3.—Flash Pasteurization

The milk is heated rapidly, held at the desired temperature for a short time, then rapidly cooled.

The milk flows continuously into a jacketed cylinder whose outer surface is in contact with the heating medium. A revolving paddle agitates the milk as it enters, at the same time driving it along and out. This machine is known as a rotary pasteurizer.

4.—Pasteurization in Bottles

This system is similar to the sterilization in bottles except that no homogenization takes place, and the temperature is raised to 145 deg. F.-150 deg. F. This method is extensively used in America, and is ideal from the sanitary and bacteriological standpoint, as there is no danger of recontamination after heating. There are great disadvantages, however, as there is greater cost in equipment and operation and it is difficult because of the time required to raise the contents to the required temperature.

5.—Batch Pasteurization

By this method milk is treated in large quantities, such as 1,000 gallons in one batch. The pasteurizer generally consists of a cylindrical milk chamber with a revolving steam jacket surrounded by a steam or hot-water jacket. The milk flows into the receiving tank, is thrown by a revolving paddle in a thin layer against the sides of the heated jacket, and then forced through an outlet at the top of the machine. The milk attains a heat of 160 deg. F., and is held for one minute and then cooled and bottled at 50 deg. F.

This system is unsatisfactory because of :—

(*a*) The uncertainty of pathogenic bacteria being destroyed.
(*b*) Difficulty of temperature control.
(*c*) Fat globules rise, giving an apparent reduction in " cream line."

6.—The Continuous Positive Holding System

This is the process mostly used in this country and is recognised by the Ministry of Health. It differs from other systems in that the heating and cooling are continuous and the holding is intermittent.

The stream of milk is taken through the heater and filter to a small tank. As soon as this tank is full the stream is diverted to a second tank where the filling is completed. Each tank is filled and holds the milk for a period of 30 minutes, after which it is emptied into a tank prior to delivery into the bottles through the filling machines. This is the process which will be dealt with in detail later.

7.—Stassanisation

This is a process invented by Dr. Henri Stassano and widely used and approved of in Denmark, but it is not recognised in this country by the Ministry of Health. The plant is so constructed that the milk is passed in a very thin layer between tubes heated by water at a temperature of 167 deg. F., which means that the milk attains a temperature of 165 deg. F. It is then cooled by water or brine.

It is claimed by the chief chemist at the Danish National Experimental Dairy that this is superior to pasteurization because all particles of milk are heated uniformly to the temperature required, so that all bacteria is destroyed. At the same time the milk does not lose any vitamin values, the flavour remains the same as raw milk, and it keeps far better.

DAIRY PLANNING FOR THE CONTINUOUS POSITIVE HOLDING SYSTEM

As the continuous positive holding process of pasteurization is the one approved by the law of the country, it is proposed to deal only with buildings to house this system.

Pasteurization is defined in the Milk (Special Designations) Order, 1923 (made under Section 3 of the Milk and Dairies Amendment Act, 1922), as the retention of the milk at a temperature of 145 deg. F. and not more than 150 deg. F. for at least half an hour, and its cooling immediately afterwards to a temperature of not more than 55 deg. F.

The objects of pasteurization are :—

1. The destruction of the pathogenic micro-organisms which are sometimes present in milk.
2. The postponement of souring.

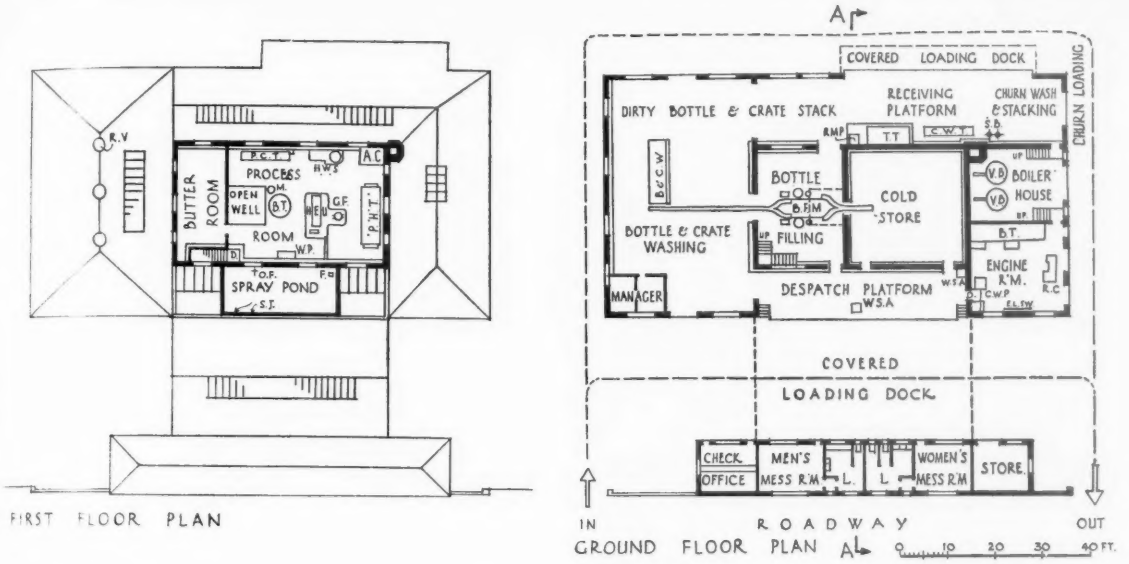
Site

The site for a dairy should be level and in the country, or in a suburb near to a town. In a dairy cleanliness is vital and a town atmosphere is not desirable as it contains much dirt and contamination. Land is likely to be far cheaper, too, outside the town. It is necessary to have plenty of land to allow for the circulation in and around the building. Large dairy companies usually have distribution depots in the town or city.

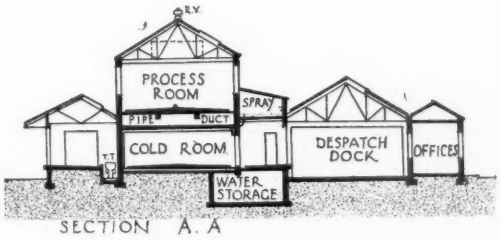
The delivery of raw milk may influence the position of the site. If it is delivered by rail it must adjoin a railway, but, as is often the case, milk is delivered by road, in which case the site must adjoin a good road and be easily accessible to motors. It is well for the site to adjoin a main road, as a well-placed and well-designed building has advertising value.

An ample supply of cold pure water is essential. Four to six gallons of water have to be used in devious ways for every gallon of treated and bottled milk. Therefore, if a public supply is to be used, a large main should be available near the site. If it is possible to find a supply of good water from an artesian well at an economical depth it will be cheaper, owing to the large quantities of water required, and will not be as liable to the inconvenience of drought as the public supply.

Most of the water used runs to waste, which means that a large sewer must be available, of sufficient capacity for the period of working, which is about eight hours per day. This effluent, which is from machinery and washing-down points, troughs and channels in floors, must be treated as soil and must not discharge into the surface water drains.



A.C. : Air Compressor.
B.T. : Milk balanced tank.
C.F. : Continuous filter.
F. : Filter.
H.E.U. : Heat exchanger unit.
H.W.S. : Hot water set.
M. : Motor to B.T.
O.F. : Overflow.
P.C.T. : Pipe cleaning tank.
P.H.T. : Positive holding tanks.
R.V. : Robertson ventilator.
S.J. : Spraying jets.
W.P. : Washing pump.



B.F.M. : Bottle-filling machine.
B. & C.W. : Bottle and crate washer.
B.T. : Brine tank.
C.W.P. : Cold water pumps.
C.W.T. : Churn washing trough.
E.L.S.W. : Electrical switchgear.
R.C. : Refrigerator compressor.
R.M.P. : Raw milk pump.
S.B. : Steaming blocks.
T.T. : Tipping tank.
V.B. : Vertical boiler.
W.S.A. : Water storage access.

Figs. 1, 2 and 3
A small Dairy for the Pasteurization of Milk. Capacity : 500 gallons per day

Circulation and Process

Before considering the planning and layout of the building it is essential to grasp thoroughly the sequence of operations and the plant required.

The operations may be described as :—

1. Milk receiving.
2. Storage.
3. Treatment (heating and cooling).
4. Bottling.
5. Storage of treated milk.
6. Despatch.

The main machinery required will be :—

1. Tipping and weighing tank.
2. Milk pumps.
3. Raw milk storage tanks.
4. Heat exchanger (filter, heater and cooler).
5. Vacuum holding tank.
6. Storage tank.
7. Bottling machines.
8. Churn, bottle and crate washers and conveyers.
9. Boilers.

The dairy manager, along with the engineer to the makers of the plant, should be consulted as to the ouput required, the number of machines for each operation, their shape and size, and the passage room necessary for working and moving around them must be calculated in order to arrive at the areas and layout of the floors for each department. The building should be designed to allow for any extension. It is advisable to construct the building so that extra plant can be fitted to allow for a 50 per cent. increase in output. The following points of organisation may be studied in conjunction with the plans of dairies on Figs. 1 to 6.

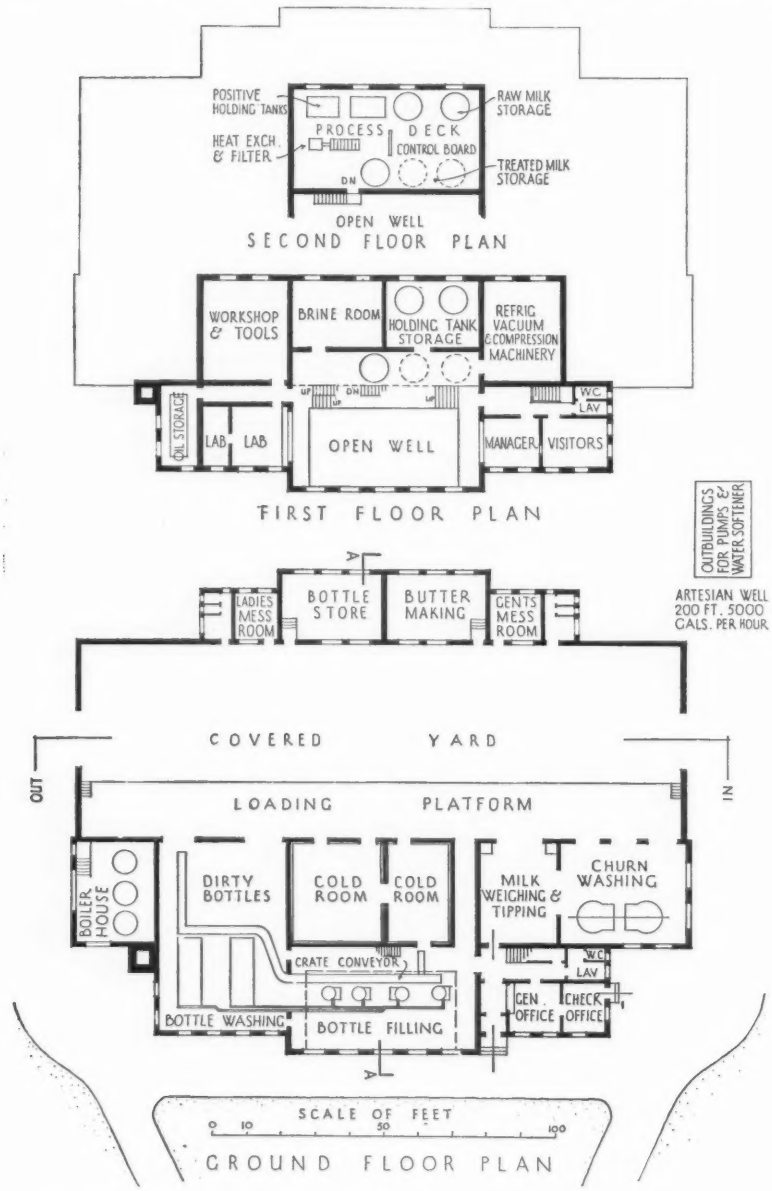


Fig. 4.—Ground floor plan. Fig. 5.—First floor plan of the Birkenhead Co-operative Society's Dairy at Prenton. Architect: W. A. Johnson [F.]

The milk arrives in bulk at the dairy, either in churns or in glass-lined tanks mounted on motor lorries, which are unloaded at the receiving platform. Samples of milk are taken and tested in the laboratory.

The receiving platform should face a large open yard in which motors can manœuvre for position. The platform should be of sufficient length to allow several motors to berth alongside at the same time. Churns are unloaded and dropped on to a 2-in. thick rubber mat to minimise noise and to prevent the wearing of the platform surface by the rims of the churns. The milk is then tipped into the tipping tank.

The empty churn is then passed into a section of the platform where it is washed and dried and stacked at one end of the receiving platform ready to be loaded on the same lorries which have brought the milk. For the latter purpose a wide opening fitted with roller shutters allows churns to be stacked right up to the

Fig. 6.—Bottle-filling room of the Birkenhead Co-operative Society's Dairy at Prenton. The process deck and brine room can be seen on the upper levels. Plans on the opposite page

door, to be placed on the lorries in rotation as they are ready. The whole of the platform (and the yard too, if possible) should be protected by a cantilevered roof glazed on its more northerly aspect to ensure plenty of light. Roof lighting should not be placed so as to give direct sun rays.

The receiving platform, if at all possible, should be planned at some distance from the dispatch platform, so that the processed milk leaves at a different point from which it is received.

Stanchions or columns to the cantilevered roof should be so designed and placed that they will not interfere with the work on the platform, and so that they can be used to take the steel guides to the series of roller shutters fitted with gearing which should close the whole of the platform when operations have ceased for the day.

A check must be kept on the quantities of incoming milk, so a small office may be adjacent to the platform for this purpose. A check must also be kept on outgoing milk.

Milk Tipping

There are several ways of arranging the tipping of the milk and passing it on to the process machinery. The two systems mentioned hereafter are the gravity system and pump system.

The gravity system involves less agitation of the milk, which is desirable if a good cream line is aimed at, and eliminates the risk of contamination from pumps.

and pipes. Frothing should be excluded wherever possible and pipes should be of minimum length. On most sites a preliminary hoisting of the churns would be required with the gravity system. If the levels of the site allow of it, the churns can be delivered direct on the first floor and emptied into the tipping tank. The churns could also be washed on the same floor level.

It is usually cheaper to tip on the ground floor and pump to storage tanks for the raw milk at the top of the building, or alternatively for the milk to flow into storage tanks in the basement and be pumped to the process room as required. Pumps are now made to ensure a minimum of frothing as foam interferes with pasteurization, and it must be seen that in the pump adopted no " glands " or " stuffing boxes " come into contact with the milk. Pumps should be duplicated in case of breakdowns, which would seriously hinder the process. The raw milk, whether it travels by gravity or by means of a pump to the storage tanks, should be pre-cooled by being passed through the brine-cooled section of the heat exchanger.

The tipping tank, as well as all other vessels coming into contact with milk, should be made of the metals advocated in the dairy buildings of the farm section of the thesis. The metal considered most resistant to milk action is chromium nickel steel alloy. The tank will be shaped like a broad shallow bath of 100 to 300 gallons capacity according to the size and requirement of the dairy. It is important to protect the tank as far as possible from dust and dirt ; partial protection is provided if the tank has a metal hood covering it except for a space for the tipping of the churns. There should be a tipping bar designed to hold the neck of the churn while it is tipped.

It is to be remembered that the cleaner the milk supplied to the treatment plant, the greater the likelihood of the final product being satisfactory. Sometimes the milk is passed through a filtering cloth on being tipped from the churn to the tank. In large dairies the milk is often weighed to check the quantity of the incoming raw milk.

The tipping tank is usually placed below platform level in a well with glazed brick sides with a waterproofed hardened granolithic finish on concrete bottom, with a sump at one end, having a trapped gully. The supporting feet of the tank and also the raw milk pump are carried on special concrete foundations. Around the top of the well should be a curb of concrete or tile finish about 6 ins. high and 9 ins. wide to prevent water entering the well. An electric switch controlling the pumps should be fixed in the process room on the first floor, and also at the pump itself as the operator may require to control it at either point.

The raw milk is pumped into insulated storage tanks at a suitable high point in the building after being pre-cooled down to 40 degs. F. in a section of the heat exchanger. The capacity of the storage tanks is generally about 20 to 25 per cent. of the day's supply, and where a great amount of milk is treated a series of 1,000-gallon tanks is fitted. The milk may be alternatively pumped direct from the tipping tank to the heat exchanger.

Before describing the process and principles of the heat exchanger the method of cleaning the milk in the continuous filter is described. The continuous milk filter consists of a series of compartments in which are fastened frames holding fine muslin filter cloths which can be removed for washing. The milk is connected by a pipe line to the milk treatment machines, and passes one or two filter compartments after being pre-heated in the heat exchanger to 90 degs. F., at which temperature it parts with dust and dirt most readily. After this it passes back again into the heat exchanger. It is not necessary to stop the flow of the milk to change dirty filter cloths. By closing off the sections in use, and by means of valves turning the flow into new sections, the cloths can be removed and replaced without interference with the process.

The heat exchanger, with filter, positive holding tanks, temperature recorders and treated milk storage tank are usually on the first floor.

The Heat Exchanger

The next part of the process from the storage tank, the pre-heating in the heat exchanger, and filtration, have already been described. The milk now enters another section of the heat exchanger, where, by means of hot water passing on the other sides of the plates, the temperature is raised to 145 degs. F.

This machine is one of the most important in the process of pasteurization. Its objects are :—

1. To raise the temperature of the milk to a point above the legal minimum, but below the legal maximum, before entering the continuous holding tank.

2. To provide a machine in which all heating and cooling shall take place out of contact with the air, in order to avoid the risk of air-borne infection.

3. To provide a means of heating which does not require steam, as this form of heat is difficult to control. All heating and cooling must be accurately calculated.

4. To heat and cool the milk economically without unduly disturbing it, creating foam, or causing it to be affected in any way by brine water, metal or scale.

5. To ensure that all surfaces which come in contact with the milk can be easily cleaned, and that the whole of the machine can be sterilized before each day's operations.

Heat Exchanger Units

Machines will vary in design, but the same principles affect them all. The various units are shown on Fig. 7.

Type 1 shows the heavily tinned gun-metal or approved metal plates, grooved on each side.

Type 2—thin flat-tinned gun-metal or chromium nickel steel plates, which, when placed between plates of Type 1, convert the grooved plates into pipes.

Type 3—the plates of this type of exchanger are a standard width of 19 ins.

The milk to be heated or cooled flows up and down across one side of the plate, as indicated by the arrows, and the water, milk or brine for heating and cooling up and down the other side of the plate and in the opposite direction. The two liquids exchange their heat through the metal plates, and the rapidity of this exchange is increased by the fact that the tubes are shallow and long.

The machines are built up in a section on a frame, the number of plates being determined by the capacity. Plates are held by two side bars supported by heavy end frames which are similar to the jaws of a vice. By means of a screw these end frames are brought towards one another with plate sections between. The complete unit is then pressed together, each plate making a perfect joint with its neighbour, by means of special jointing rings. It can be seen that this machine is easily dismantled for cleaning purposes. It is possible to use a portion of this machine for brine-cooling raw milk before it enters the storage tank prior to pasteurization.

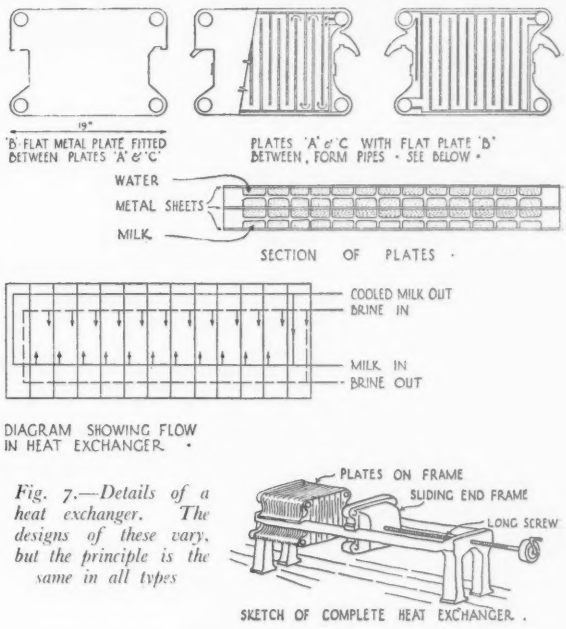

19"
'B' FLAT METAL PLATE FITTED BETWEEN PLATES 'A' & 'C'
PLATES 'A' & 'C' WITH FLAT PLATE 'B' BETWEEN, FORM PIPES · SEE BELOW ·
WATER
METAL SHEETS
MILK
SECTION OF PLATES ·
COOLED MILK OUT
BRINE IN
MILK IN
BRINE OUT
DIAGRAM SHOWING FLOW IN HEAT EXCHANGER ·
PLATES ON FRAME
SLIDING END FRAME
LONG SCREW
SKETCH OF COMPLETE HEAT EXCHANGER .

Fig. 7.—Details of a heat exchanger. The designs of these vary, but the principle is the same in all types

The Operation of the Heat Exchanger

This operation takes place in the machine described above. The pre-heating of the raw milk is carried out by its passage over plates in contact with the pasteurized milk leaving the holder at a temperature of 145 degs. F. This raises the milk temperature to 90 degs. F., in which state it passes through the filter and re-enters the exchanger at about the same temperature. It now comes in contact with a section of plates heated by hot water and brought to a temperature between 145 and 150 degs. F. It then passes through the filter into the holding tank. After being held in the holding tank for a specified time it re-enters the heat exchanger, passing through plates in contact with incoming raw milk, which reduces the temperature. This is further reduced by passing the milk over sections in contact with cold water and then with brine, and so to the treated milk storage tank.

A considerable saving (about 50 per cent.) of fuel results from the use of an efficient heat exchanger, as the pre-heating of the cold raw milk is done by the milk leaving the holder, and this latter milk is at the same time cooled.

Continuous Positive Holding Tanks

The milk enters the holder at 45 degs. F. In this holder are four to six tanks in compartments each taking $7\frac{1}{2}$ minutes to fill. The milk is held at 145 to 150 degs. F. for 30 minutes, and it then takes $7\frac{1}{2}$ minutes to empty. Its working is automatic, and valves, pipes and glands in contact with milk are few. Fig. 8 is a diagram of a holding tank, also showing the principles of operation, which are by vacuum and compressed air pumps.

The air is extracted from the tank by means of the vacuum pump to fill the tank with milk through the non-return valve (*a*) at the bottom. After the holding period has elapsed, compressed air enters the tank and the milk is forced up the discharge main (*b*) and on to the heat exchanger for cooling. The action of the vacuum and compressed air pumps are automatically controlled. On the upper surface of the holder there are covers with ports and lamps for inspection of the contents. It must be constructed for easy cleaning.

The Balancing Tank

This is a large insulated storage tank fitted with an agitator to keep the cream mixed prior to its being fed into the bottle-filling machines when required. Tanks are generally anything up to 1,000 gallons capacity, and of these there may be a series.

Pumps, Etc.

Pumps will consist of the following :—

1. Vacuum pumps.
2. Compressed air pumps.
3. Water pump.
4. Milk pump.

These will be provided with concrete beds, the floor suitably designed to carry these loads.

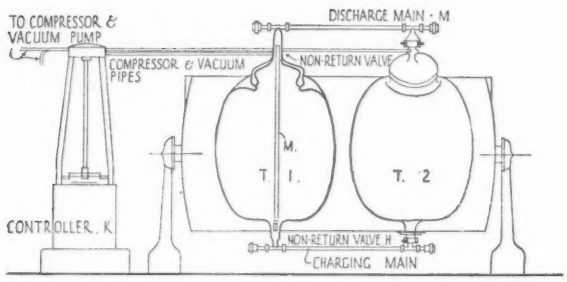
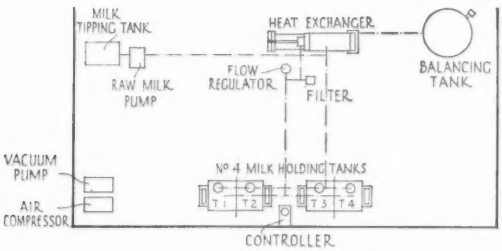


DIAGRAM OF VACUUM HOLDER.



TYPICAL LAYOUT OF PLANT FOR A SMALL DAIRY.

Fig. 8.—Details of plant for a dairy taking 400-600 gallons per hour

There is, of necessity, a great deal of piping required to serve various machines, and it is wise to keep the pipes out of the process room. They must be accessible for repair, and so a convenient position for them is between the cold room sub-ceiling and the process room floor. This will be clearly seen from the section on Fig. 3. The section of the cold room in detail is shown on Fig. 9.

It is essential that pipes should be perfectly water-tight and an access door provided, as well as electric lighting. It is advisable to paint the various pipings to different systems, such as steam, brine water-pipes, etc., in distinguishing colours to avoid confusion in maintenance.

Bottle Filling

The bottle-filling room is situated on the ground floor adjoining the cold room and bottle and crate washing room.

The bottle fillers should be so placed that there can be a sequence of operations without the lines of traffic crossing. In small and medium-sized dairies the bottles, fixed upside down, come in crates on a conveyor. They are lifted and placed on a hinged tray in the filling machine. This tray is swung into position and the crate lifted off the bottles. The bottles, now standing right way up, on the tray, are fed one by one on to the endless conveyor, which runs round the machine carrying the bottles to the filling and capping heads. The requisite amount of milk is delivered into the bottles, after which they are automatically capped and sealed, and then passed along to take their place on the accumulating tables. The full bottles are placed in clean crates and conveyed to the cold rooms to await delivery. The crates are generally stacked on elevator trucks five crates high.

Bottle-filling machines and conveyor will vary in design. They can fill and cap anything from 1,500 to 5,400 pint bottles per hour. Their size and number will depend on the size of the dairy.

Ample space should be allowed for extra machinery to all processes. Openings should be large enough to allow the passage of machinery, and running girders at suitable points to facilitate the movement of machines are desirable.

The Cold Store

The ideal situation for the cold room is between the filling room and the despatch platform, at ground-floor level. If this be done, the cold room can be filled to its full capacity, the full crates being pushed in from one side and taken out at the other ; no gangways are then required for working.

The air in the cold store should have fifteen changes per hour. The purity and sweetness of the air are essential to the keeping of the milk, especially if churns of milk are stored. The changes are effected by a thermostatic control in the room itself. Details and data of cold stores are shown on Figs. 9 and 10. The details of cooling plant for the cold store will be dealt with later.

Churn Washing and Stacking

The churns, after being drained at the tipping tank, are conveyed to the churn-washing room, where, in larger dairies, the churns are washed and sterilized in a rotary churn washer. This machine is designed to hold 10, 12, 15 or 17 gallon churns at the rate of six per minute. The process begins by giving the churns a preliminary rinse. They are then washed inside and out with hot water from powerful jets, then with boiling water, followed by live steam, and finally dried by a blast of hot air. In smaller dairies they are washed by hand in tanks, then inverted over live steam jets and sterilized. Churns are then stored, or preferably returned immediately on the lorries to the farms, as churns take a great deal of room being of such large dimensions.

Bottle and Crate Washing

It should be kept in mind that bottles and crates are returned when little or no process work is going on. They are unloaded on to the despatch platform and then taken into the bottle-washing section. This section is kept away from the raw milk and process departments of the dairy. The platform will be covered with a glazed cantilever roof. Alternatively, a dirty

bottle and crate storage section can be formed, closed in by roller shutters, which would obviate the necessity for a platform. This would, of course, be close to the crate and bottle-washing machine. A new bottle store may be required, which should also be near the bottle-washing machine.

Bottles and crates are washed and sterilized by one of two systems. In one they are washed together in the same machine; in the other, separately in separate machines. Bottle-washing machines can deal with as many as 9,000 bottles per hour, and can take quart, pint or half-pint bottles without adjustment. The bottles in the process are rinsed and washed with warm water, then with a soda solution, and finally brought in contact with hot water and steam before being cooled and passed out.

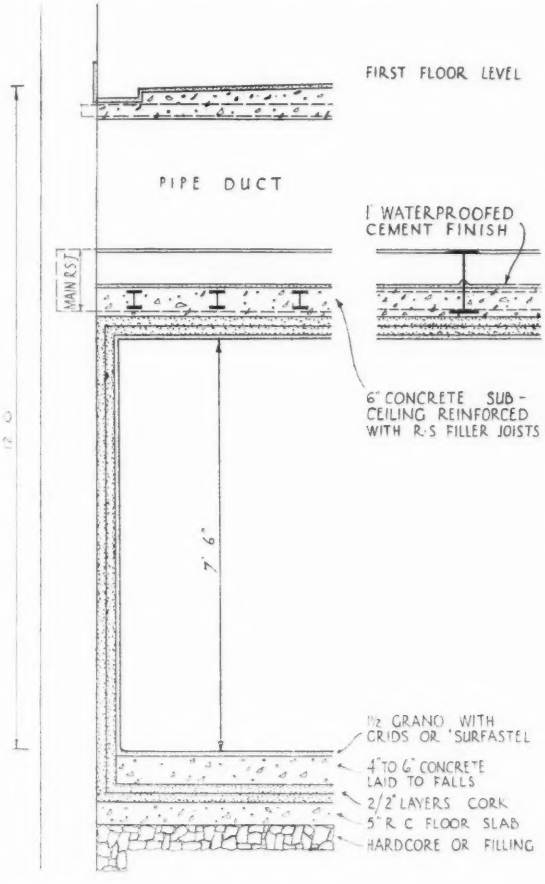
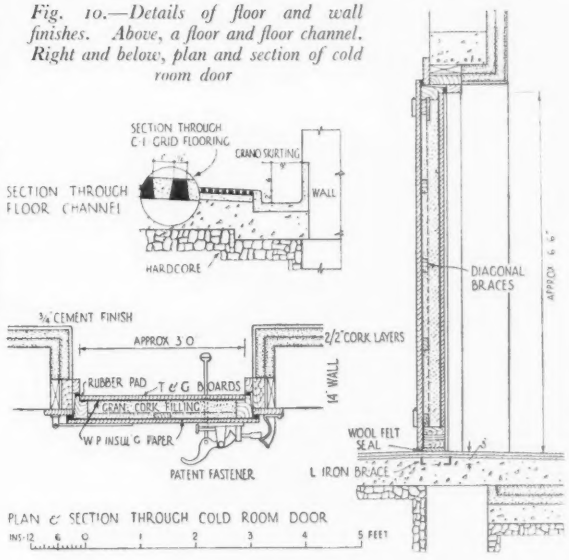

FIRST FLOOR LEVEL
PIPE DUCT
1" WATERPROOFED CEMENT FINISH
MAIN R.S.J.
6" CONCRETE SUB-CEILING REINFORCED WITH R.S. FILLER JOISTS
7' 6"
½ GRANO WITH GRIDS OR 'SURFASTEL
4" TO 6" CONCRETE LAID TO FALLS
2/2" LAYERS CORK
5" R.C. FLOOR SLAB
HARDCORE OR FILLING
CROSS SECTION COLD ROOM & WALL FINISHES TO A SMALL DAIRY
0 1 2 3 4 FEET

Fig. 9.—Construction and finishes of a cold room for a small dairy

Fig. 10.—Details of floor and wall finishes. Above, a floor and floor channel. Right and below, plan and section of cold room door



Openings between all departments should be large, but owing to the possibility of steam entering the filling room, any opening between the washing and filling rooms should be small. It may be advisable to protect openings in the dairy by mild steel guards 3 ft. high, for bumps from conveyors, etc., may disfigure the walls at such openings.

Boiler House

This can either be in a basement or on the ground floor, or in a semi-basement. Steps should lead down from the engine room to the boiler house. Side and top-lighting and adjustable ventilation are needed; a lantern light with gearing operating casements works well.

Boilers can be of horizontal or vertical type, the latter taking less floor space; they can be fired either by coal, coke or oil. Coal or coke cause dust and dirt, but no more smoke is created than with oil. A smoke consumer should be used in conjunction with the boilers. If coal or coke is used it can be tipped directly through a roller-shuttered opening direct to the storage section of the boiler house, but fuel tipping should not interfere with other traffic circulations.

When oil is used a storage tank room is necessary, with a permanent oil pipe for filling the tanks. The tanks should be of the cast-iron type, which will discharge directly into auxiliary feed tanks at a high level in the boiler house. This room will require heating to maintain the oil in a fluid state during cold weather.

A tall chimney will be required to comply with the local bye-laws regarding boilers for industrial purposes.

Engine Room

If the engine room and cold room and process room are close together there will be a shorter run of piping, thus increasing efficiency and reducing cost. It should be accessible to the despatch platform, the receiving platform and the boiler house. This easy access would mean that one engineer could supervise all machinery, which is mostly automatic. The engine room should have at least one wall with adequate windows and door openings placed for easy access to machinery.

The floor level should be at 2 ft. to 2 ft. 6 ins. below the main ground-floor level. The public main water supply or private supply can be brought to the main storage tank in this room, the water being raised by means of a pump to the required height.

The machines housed in the engine room are the ammonia compressor and motor, the brine cooling tanks and brine pump. In an ordinary ammonia compressor plant the gas is compressed to a pressure of 150 lbs. per sq. in., involving less power than a carbon dioxide plant, which is more dangerous. Ammonia compressors require efficient lubrication to prevent escape of ammonia gas and to afford complete lubrication of surfaces in friction. Care should be taken to purchase this plant from a reliable firm. The brine cooling tank can be placed here. It should be of reinforced concrete lined with 3-in. cork slabs for insulation purposes, finished with $\frac{3}{4}$-in. asphalt, and the top of the tank covered except for a movable lid or cover for access; this can, however, be constructed if space is limited under the floor level of an adjoining room. Care should be taken in the construction of this tank to allow for future extension and to allow room for the installation of new coils in the tank.

The electricity switchgear and distributor board are situated here. The various fuse and switchgear boxes should be made of material to resist corrosion by the ammonia fumes which might escape from this compressor.

The Principles of Refrigeration

The main principle lies in the fact that the ammonia gas is raised to a high pressure, about 150 lbs. per sq. in., by a compressor cooler to a liquid state by a condenser, then, in liquid form, and still under pressure, ejected through the fine orifice of an expansion valve into a large chamber. Sudden expansion takes place, the liquid being re-converted into gas, resulting in the absorption of a large amount of latent heat. The very cold gas is now liberated and passes through evaporating cells submerged in a brine tank. The gas is drawn by suction back again into the compressor, and the complete cycle of operations repeated. The brine is simply the medium to carry the coldness to the various parts of the dairy. There is usually a circulating system through coolers or coils in the cold room. The process is continuous, and the brine is cooled to the required temperature by regulating the compressor. The temperature is usually automatically controlled.

Water Supply

As previously stated, the usual supply may be public or private. Whether a supply be from the public main, or an artesian well, it should be connected to the reserve tanks for emergency purposes. The reserve supply should be designed for four days' working, which would mean 20,000 gallons capacity for four days to each 1,000 gallons milk capacity of the machines. The tank would be of reinforced concrete, and waterproof cement lined, generally built under the despatch platform or some suitable position, with access by means of manholes, the covers of which must be sealed in tallow. The water is maintained at a constant level by a ball float valve. The tanks should have their floors laid to fall to a sump, to which is connected a filter-connected draw-off pipe, which, in turn, is connected to the pumps in the engine house, which draw off the water. A tank for used warm water should be constructed at a high level, preferably in the roof.

Water heated and used in the working of compressors need not run to waste. A spray pond can be constructed for cooling the water, and may be situated over the despatch platform or some other convenient place, the water ultimately returning to the engine room. The tank, with a capacity of about 1,500 gallons, and holding an 18-in. depth of water, would be constructed of reinforced concrete, or as a reinforced concrete platform with 9-in. brick walls. The main face of the building could form the rear wall. (Fig. 3.) All faces likely to come in contact with the water should be covered with 1-in. thick waterproof cement on $\frac{3}{4}$-in. asphalt. An overflow and emptying pipe should be provided, together with a return pipe to the engine room, fitted with a strainer. Access should be provided to the tank from the first floor. There should be double doors, the outer one to take any spray, to protect the inner door, and to stop water entering the building.

The water is cooled by means of a 1-in. feed pipe, from which the hot water passes through fine jets and is atomised and blown into the air, thus cooling rapidly and falling into the pond. It is necessary to have a large roof area for cooling purposes. A convenient arrangement would be to mount the jets on a low wall situated in the valley between the loading dock roof and the pond. The water would spray on the roof and drain back to the pond. A considerable amount of water will fall on the roof, but it is no more than a heavy fall of rain.

OFFICES

Under this section there will be required the following departments, large or small, according to the size of the dairy :—

1. Manager's Office and Typists' Office.
2. General and Check Office.
3. Laboratory.
4. Reception Room for Visitors.
5. Mess Room.
6. Lavatories and Cloak Rooms.

MANAGER'S OFFICE

In the choice of position in the planning it must be remembered that the manager will require easy access to the whole building for supervision of the complete dairying operation, and he also should be as near as possible to the office staff. A manager keen on the efficiency of men and machinery will not spend all his time in the office, but if he is detained in the office it is advisable for him to watch as many of the operations as possible, so the office must be surrounded by large windows overlooking the processes. It may be placed on the ground floor or first floor. In a large dairy a typist may be employed for the manager, and the room should adjoin the manager's office.

GENERAL AND CHECK OFFICE

The size of this office will vary according to the number of the staff. It should have access to the despatch and receiving platforms, and be as close to them as possible, so that incoming milk may be checked, and men and boys from their rounds may hand in their cash and return without entering the process rooms of the dairy.

LABORATORY

In large dairies this is generally a separate room. In smaller ones it is often a small recess, off the manager's office. If the room is separate, it should be near to the manager's office, so that the manager can confer with the bacteriologist. Samples of raw milk coming in from farms to the dairy are taken and tested, and samples of the pasteurized milk are taken at frequent intervals during the process time. This room need only be simply furnished, fitted with a deep sink with hot and cold water valves, teak drainers, cupboards and shelves and tube racks, a bunsen burner, and a milk-tester of the turntable type fitted on a very solid bench.

RECEPTION ROOM

Large dairies are open to visitors as a means of advertising, and comfortably furnished rooms in which milk is likely to be drunk should be fitted with chairs and tables. This should be near the manager's office.

MESS ROOMS

Unless all labour at the dairy is local, rooms for meals will be required. There are usually two rooms, one for each sex. The first floor of the dairy, or in an outbuilding, would be a suitable location.

LAVATORIES AND CLOAKROOMS

Ample washing accommodation should be provided to encourage cleanliness among the staff. Lavatory bowls fitted with hot and cold water and W.C.s for male and females staffs must conform to the local bye-laws. The lavatories and cloakrooms should be in a convenient position adjoining the mess rooms.

GARAGES

Garages will be required to accommodate motor vans, hand-pushed and horse dandies. A horse-drawn dandy (or dray) carries on the platform 24 crates of 20 bottles each—a load of 16 cwt. A modern hand dandy carries 200 pint bottles. The number and kind of vehicles will have to be ascertained in order to determine the size of the garage.

BUTTER, CHEESE AND ICE-CREAM MAKING

Since the Milk Marketing Board laws dealing with surplus milk supplies have come into force, many large dairies are including departments with plant to make the above products. A brief account of the processes is given in a later part of this thesis.

HEATING, LIGHTING AND VENTILATION

HEATING

The only departments which require heating are those rooms mentioned under the offices section. The heating can be effected through calorifiers in the engine room fitted in the engine house by low pressure hot water circulation. Another set of calorifiers supplies hot water to lavatory bowls. Heating is sometimes done by waste live steam.

LIGHTING

All departments in the dairy except the cold room must have ample natural lighting by means of windows and roof lights. There should be a minimum window area of 10 per cent. floor space. For artificial lighting, electric is the only kind to be considered. It may be obtained from a local authority or a "grid" scheme. All materials should be of a quality to resist acids and fumes where these are likely to be present.

VENTILATION

Air must be kept pure and cool throughout the dairy. Good ventilation is essential, and any escaping steam from churn or bottle washers or other machinery should be speedily expelled. Ten to twelve changes of air should take place in the bottle-washing room and six changes in the process room. Windows should be made to open by means of hoppers at top and bottom, or by opening casements, the vitiated air being removed by extract ventilation on the roof.

On the roofs of the process and washing rooms ventilators can be distributed, but in the washing room it is advisable to concentrate them over the machines. Robertson's & Cellactite ventilators are satisfactory for dairy work ; they are efficient, and are constructed of steel covered with a bituminous or asbestos covering. They require no painting and resist the atmosphere.

The cold room ventilation will require exhaust fans to prevent dampness. Good ventilation is here absolutely essential.

GENERAL CONSTRUCTION

The buildings should be designed to conform with bye-laws appertaining to the district.

WALLS

The general construction can be of brick or stone with steel frame, or reinforced concrete. Definite attention must be paid to obtaining thoroughly efficient hygienic conditions. Wherever stanchions occur on walls they should be sufficiently encased in concrete, such casing to be made to conform with the bonding of the brickwork.

The average elevational treatment of dairies is bad, and whilst it is neither possible nor desirable to erect a monumental type of building it is possible to design a building expressive of its function and at the same time possessing charm. Again, it must be remembered that a well-designed dairy in a garden setting has advertising value.

FLOORS

Floors of dairies present a difficult problem, as will be seen from the Reports of the Building Research Station on this matter. Wear and tear from heavy traffic and corrosion from lactic acid will occur.

A good floor, to resist these destructive agents, may be constructed of concrete having a granolithic finish 1½ to 2 ins. thick, with heavy cast iron grids 1 in. thick embedded in the surface. (See Fig. 10.) The granolithic is hardened by the addition of silicate of soda solution or other suitable manufactured substance. The laying is the work of a specialist firm with experience in such floor construction. If a floor fails in any place it might be necessary to relay a complete portion of it.

The ground floor will be 3 ft. above ground level to allow a suitable loading height to the platform.

All floors where process and washing take place must be laid to falls of a minimum of 1½ ins. in 10 ft. to wide channels for drainage and washing-down purposes. The channels are 9 ins. wide and 3 ins. deep, laid to slight falls to gullies. The channel finish, whether of tile, terrazzo or granolithic, should have a cove and skirting 6 ins. high, flush with the face of the glazed brick wall. (Fig. 10.) Wherever channels have to cross a doorway or opening they must be covered with gratings in cast-iron frames, provided with good lugs and firmly bedded in the concrete. Special reinforcement will be necessary under machines.

Floor channels should be provided to machines where necessary to prevent waste water from the machines flowing over the floor, and untrapped gullies with removable strainers should be provided. This latter condition applies to all drains running under floors, with the exception of those from the cold rooms and milk tipping tank well. The local authority usually insists on untrapped gullies within the building being connected to cast-iron pipes and discharging into a manhole trapped to disconnect it from the main drainage system.

The bottle store will have a granolithic finish floor, but no cast-iron grids will be necessary. The floors of process room, laboratory, engine house, corridors and lavatories should be covered with small red adamantine tiles set in waterproof cement. Rooms under the "offices" section, unless otherwise mentioned, should be laid with wood blocks set in bituminous material. Engine beds can be best finished in terrazzo, white glazed tiles, glazed bricks or white cement or granolithic.

WINDOWS

The metal window with opening casement and hopper and transome lights with suitable gearing is best.

ROOF

The roof will be constructed either of reinforced concrete insulated with cork and covered with asphalt, or of the usual steel roof truss with purlins, boards, felting, and slates or tiles. Roof lights or lantern lights will occur where required, and also ventilators which have been before described. The storage tank and spray pond already described will have to be accommodated.

DAIRIES FOR THE MANUFACTURE OF CHEESE AND BUTTER

INTRODUCTION

Under the Milk Marketing Board's regulations, surplus milk has to be dealt with. It is obtainable by manufacturers from farmers at a reduced price. Outlets for surplus milk are many. There is cheese-making, butter-making, cream, condensed and dried milk, ice-cream, margarine, casein or chocolate.

It is only proposed to deal briefly here with the manufacture of butter and cheese. They may be manufactured together in one building, or separately.

BUTTER-MAKING

Butter-making in former years was a recognised method of handling surplus milk on farms or in dairies, but owing to keen overseas competition the business is not now very profitable. From 2 to 2½ gallons of milk are required for the production of 1 lb. of butter.

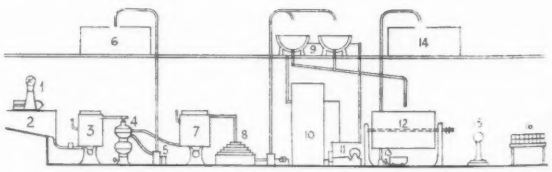


Fig. 11.—1. Milk received. 2. Tipping tank. 3. Preheater to 80-90 deg. F. 4. Separator. 5. Skimmed milk pump. 6. S.M. storage tank. 7. Flash pasteurizer for cream. 8. Cooler. 9. Mixing vats surrounded by brine jackets for cooled cream. 10. Brine tank. 11. Compressor. 12. Butter churn and worker. 13. Buttermilk pump. 14. Buttermilk tank. 15. Weighing machine. 16. Packing machine

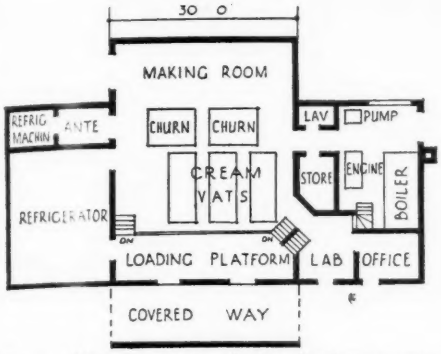


Fig. 12.—Diagrammatic plan of a Canadian butter creamery

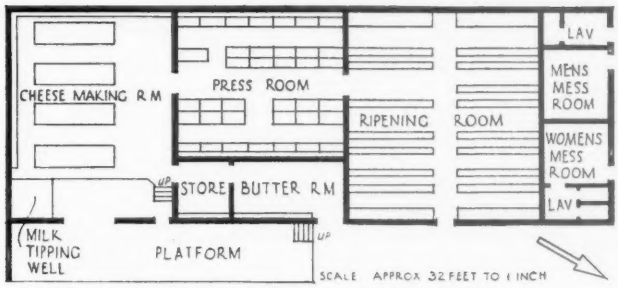


Fig. 13.—Diagrammatic plan of a cheese dairy

There are two chief kinds of butter on the market :—

1. Sweet cream butter where cream is churned without ripening.
2. Butter made from ripened cream.

MANUFACTURE OF SWEET CREAM BUTTER

This kind is generally made in Irish creameries, and a diagram with a reference showing the sequence of processes from 1 to 16 is shown in Fig. 11.

MANUFACTURE OF RIPE CREAM BUTTER

This is the type mostly manufactured in this country. The following are the main processes which will require to be accommodated :—

1. Milk receiving, tipping, weighing and storage.
2. Milk testing in laboratory.
3. Milk treatment (if required).
4. Ripening.
5. Churning.
6. Salting.
7. Weighing and packing.
8. Cold room storage.
9. Despatch.

A boiler house and offices will be required.

The following is an account of the process of butter-making. Milk is delivered from the farms to the creamery on to the receiving platform. It is then tipped into the milk tipper and weighed, and records taken, along with samples for testing in the laboratory. The milk proceeds from the tipper to the raw milk storage tank, and on to the process plant if the milk is to have preliminary treatment by pasteurization.

After being treated, the milk is separated from the cream. The cream then enters the cream ripening vats in the ripening room, which may be at a higher level than the churns. A culture or starter is mixed with the cream in the vats to facilitate ripening, which takes between 24 to 48 hours, according to the type of butter. The ripening room must be maintained at a temperature between 60 and 70 deg. F. for the process. The cream is fed from here into a combined churn and butter worker, and the temperature of the churning room should not be below 50 deg. F. nor above 65 deg. F. Churns will be electrically driven, and this process takes about 25 minutes. The buttermilk is drawn off through a fine mesh strainer from the bottom of the churn, and the butter in the churn washed with clean water to clear as much buttermilk as possible. The washing water should be at a temperature of about 50 to 55 deg. F. After the final washing, the butter is salted whilst in its granular form, and then worked in the churn and butter worker until it becomes solid. It is now weighed and packed and taken into the cold room ready for delivery.

A diagram of a Canadian butter creamery is shown in Fig. 12.

In designing a butter creamery it will be necessary first to ascertain the amount of milk to be turned into butter, the number and size of vats and churns, and the necessary space allowed for clearance between the machines for working purposes. General construction and principles will follow the lines mentioned under the milk treatment section of the thesis.

CHEESE-MAKING

Cheese-making is more profitable than butter-making, milk for this purpose being worth 2d. per gallon more. The main processes requiring to be accommodated are :—

1. Milk receiving, tipping and weighing.
2. Milk testing and laboratory.
3. Treatment (if required).
4. Milk ripening and cheese-making.
5. Pressing.
6. Curing.
7. Delivery.
8. Whey.
9. Offices.

The process of cheese-making is as follows :—

Nos. 1, 2 and 3 above are similar to those for butter manufacture. The milk then enters the ripening vats. The milk must be ripened to give a certain degree of acidity, and the temperature of the ripening room should be 85 deg. F. If colouring is required it is added at this stage. When the necessary degree of acidity is attained, rennet is added to coagulate the milk. The milk is stirred to mix the rennet and then left to stand for 25 to 35 minutes to complete the process. When the curd is formed, it is cut and the whey allowed

to escape from the bottom of the vat into the whey tank. The heating should be increased gradually to 96 to 100 deg. F. to facilitate the expulsion of the whey. The solid mass of curd is now drained through cheese cloths, and when sufficiently dry is passed through a curd mill and salted. The temperature of the curd is reduced from 90 to 80 deg. F., the curd is put into the cheese hoops, and then into the presses. They are subjected to constant pressure for 48 hours, then removed to the curing room for ripening. The temperature of the curing room should be kept at about 40 deg. F. The cheeses are kept in the curing room for varying times to suit the extent of ripening required by customers. Racks will be required in the curing room.

A diagram of a cheese creamery is shown in Fig. 13.

General construction and finishing will follow that advocated in the milk treatment section, but it may be stated that the ripening room must be cool. It should preferably have a northerly aspect and be well ventilated. A pump should be fixed to the whey tank if farmers purchase the whey for pig feeding. Milk and the by-products, such as whey, are most difficult to deal with from the point of view of drainage. River boards complain about the discharge of effluent from milk-treatment dairies and creameries, which makes the rivers acid, destroying fish and spoiling the rivers. A method of treatment of whey, if it is not taken by farmers, would be to take it into a manhole fitted with three intermediate baffles to help to settle solids. The effluent would then be passed over and drained through about six limestone chipping beds and coke filter beds arranged alternately, the effluent then passing into the ordinary drain or river. Another method would be for the effluent to pass through a removable catch basket strainer fitted in a pit, the effluent passing into a tank from which it would be pumped into storage tanks whose level would be 8 ft. clear of the floor. Steam and compressed air would be blown into the tanks. Sludge would then collect at the bottom of the tank, which is cone-shaped up to the sludge top level, with an outlet for the sludge at the bottom. The clear liquid rises to the top and is taken off by an outlet just above the sludge level, to the limestone beds and coke filter beds, then on to the outfall.

Butter- and cheese-making is sometimes carried out on farms and in pasteurizing dairies, but the principles outlined will be a guide to planning arrangements.

In the previous article, "Dairy Farms," acknowledgment should have been made of Mr. Edwin Gunn's permission to reproduce three illustrations from his book "Farm Buildings New and Adapted."

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THE ANNUAL DINNER

HELD IN THE HENRY FLORENCE HALL ON FRIDAY, 11 FEBRUARY 1938, THE PRESIDENT, MR. H. S. GOODHART-RENDEL [*F.*], IN THE CHAIR

The annual dinner of the Royal Institute of British Architects was held at the Institute, 66 Portland Place, W.1, on Friday, 11 February 1938, Mr. H. S. Goodhart-Rendel [*F.*], President, in the chair.

The loyal toasts having been honoured, the Rt. Hon. Sir PHILIP SASSOON, Bt., P.C., G.B.E., C.M.G., M.P., the First Commissioner of Works, proposed the toast of "The Royal Institute of British Architects and its Allied Societies."

He said: I rise now to give you the toast of "The Royal Institute of British Architects and its Allied Societies," and in doing so I should like to say not only what a great honour it is to me to be able to-night to propose this toast but also what a very great pleasure it is as well. If I may say so very humbly, of all the arts architecture is my favourite; I think that of all the arts it is the one which most of all stands or falls by itself.

I should like to say how extremely fortunate I think that I am to-night to be able to meet in such a happy fashion so many members of this distinguished Institute, whose professional interests run so closely with my official duties, and I should like to thank you very much for your kind invitation and for the welcome which you have given me. In the course of my duties as First Commissioner, which, as you know, cover not only the maintenance but the creation of so many buildings, I shall no doubt have the pleasure of coming in contact with many of your members and associates, and it will have been of great advantage to me to be able to become acquainted with you in the friendly and free atmosphere which exists to-night.

From one point of view, however, this meeting is perhaps a meeting of opposites. A not unimportant side of my official duties is that of Keeper of Ancient Monuments. You are responsible for the design and the creation of the buildings of to-day. Perhaps from one point of view we are brought together on this matter, because some at least of the buildings which you are creating will become the ancient monuments of future years. It is indeed the quality of your art which will decide whether the buildings which are put up by the present generation will arouse the pride or incur the odium of the generations that are to come. I think, therefore, that there is a great responsibility which rests upon your shoulders.

We shall all agree that there are many buildings which have been put up since the war which are in no danger of being considered worthy by future generations to be preserved as ancient monuments. I will certainly not risk the harmony of this agreeable gathering, however, by making any attempt to specify any instances. After all, the Royal Institute of British Architects is not responsible for all the building that has taken place in the post-war years! I will naturally assume that those buildings which perhaps throw least credit upon the architectural taste of this generation are not those buildings which have benefited from your assistance. No one institute, however many members it may possess, could possibly cope with the great flood of new buildings which has taken place, but, all the same, your influence covers a far wider area than you could possibly cover personally. The standard of architecture which is set here is one to which all those who carry out any new building must, and do, give their attention.

Now, what ought to be that standard and on what principles should it be based? It would be rash indeed for a layman like myself to give an opinion on these subjects in such a company as this; on the other hand, it is the layman, the ordinary Englishman and Englishwoman, who has to live in these houses which are built up round our towns and has to gaze upon the more pretentious buildings which are erected in our great cities.

It has been said, and probably truly said, that architecture reflects the spirit of its age. Certainly our views of our Victorian forebears are coloured, perhaps—who knows?—by the architecture of the Victorian age, and so it is with other periods. Certainly architecture has always been, I think I may say, the most permanent of man's social and historical records.

It may be right to say that there is one principle upon which modern architecture should be based, and that is that it should seek to embody the spirit of its age. That is obviously a right principle, but it does not carry us the whole way. Architecture is, after all, not merely the mirror of public opinion; it has always been, and I hope that it will always be, a great educative force. Public opinion is too variable a quantity for an art which embodies in itself an element of permanence to follow slavishly in all its altering moods; there must be deeper and surer principles on which it is founded.

Perhaps one of those principles should be that architecture in all places and at all times should do its best to take advantage of the materials which are available to it in all places and at all times. We have seen ourselves how local stone and local brick and timber have a way of blending with and becoming a part of their own particular surroundings in the most happy way. I think that perhaps one of the major problems with which architecture is faced in this country is that of making the best use of the materials and the methods which advancing science has made available for us. We have not, perhaps, been able to make the best use of those materials and of those methods. Perhaps we have not yet discovered, for instance, how to achieve the happiest results with steel and concrete, to mention one example.

Another basic problem is that a way should be found with the means available to us of combining utility with beauty. I am sure you will agree with me that ornament and embellishment by themselves are of little purpose. For instance, I do not think they have ever made a bad building into a good building. On the other hand, if utility is the only end then there is no place for art in architecture. That brings us to our chief difficulty. What for thousands of years has been considered by mankind as the criterion of beauty is now challenged. I personally do not think that that challenge will last, but it exists and is responsible for many of the buildings which have been put up since the war, buildings which perhaps I would be surprised to see future generations consider worthy to be regarded as ancient monuments.

Now, no doubt there is an element of beauty in sheer force

and power. But that is one of the elements which the generations of the past have always considered to be one of the components of the beautiful. One of those elements is proportion—or scale, which I am told is the right way to pronounce it. Scale is not easy to define; it is easier to realise the presence of proportion or the absence of proportion than to be able to say exactly of what it consists. So often you hear people talking glibly about proportion and saying that a certain building is no good because the proportions are all wrong or saying that another building is beautiful because the proportions are right. Those of us who have seen, for instance, the Doge's Palace in Venice, that top-heavy superstructure on its little dachshund legs, will realise that it is certainly not proportion that makes it one of the most beautiful and satisfying buildings in the world. I have just come back from a holiday it the United States, and there I must say that I did find those stupendous buildings in New York gave me a sense of proportion. Not only were they built on a tremendous scale, but it seemed to me that they were built with immense taste; these big buildings were finished almost with the detail of a Cartier cigarette box.

Now, I think that the great cities of the world have each their own individual architecture, and it seems to me that proportion should conform in each case to that individual atmosphere. I can admire skyscrapers in New York, but I cannot conceive of them in our London streets. I think that when one visits Paris one comes back with the memory of its monuments: the Arc de Triomphe, the Pavillons of Gabriel in the Place de la Concorde, the Louvre, its bridges, and so on. I have always found that the charm and the character of London lies in those small Georgian houses, so many of which have unfortunately been disappearing of late and which have been replaced in too many cases, I think, by buildings which have no character of their own.

I do not want you to misunderstand me. Though I have been responsible, as perhaps you may have seen, for restoring No. 10 Downing Street lately to what it looked like when Samuel Scott painted it, I do not for one moment say that modern architecture should copy the architecture of the Georgian period. We are not living in Georgian times, and I think that we should not obtain satisfactory results by attempting to recapture those architectural triumphs by the aid of the new methods and the new materials which are now available to us. The charm of our old buildings so largely depends upon the delightful combination of their architecture and the harmony which goes with it of the materials of which they are composed. The aim of our modern architecture, it seems to me, should be to produce new harmonies which should give full expression to the qualities of those new materials and methods which are now available to us and at our command.

I do not think that these new harmonies, if I may say so, have been yet completely found in London. I believe that the principles which were followed by the great English architects of the past would perhaps show us the way to find them and might suggest a way whereby these new materials might portray the essential character of London just as aptly as the skyscrapers of New York typify that more recent and more restless city. It seems to me that the appeal of weight and mass is more suitable to the Stone Age than to the age of steel. It is difficult, for example, to recapture the atmosphere of Durham Cathedral in reinforced concrete. I believe, however, that steel and concrete are capable of being adapted to the character of London more successfully than they have been up to date, and that perhaps if we could only find the right way we might be able to produce results as satisfactory as those which have been given us by the age of stone.

But, after all, one must be fair. We are still only experimenting in a new medium, and it is only natural that some of these experiments should not be completely successful. Some of them, however, have at least given us a glimpse of what can be, and no doubt will be, achieved in the future. It is here among the members of this Institute that we common people who are not architects look for guidance and assistance. We look to you to solve the problems which we recognise to the full but which we with our own capabilities are not able to solve ourselves, and we ask you only to realise that what we beg for in architecture at the present day is something that will last, something that will bear the final criticism of time. We do not want this generation to be regarded from an architectural point of view as a generation who looked to the worship of force as the only refuge from utilitarianism, as one which allowed the march of time or the triumph of the machine to distort its sense of beauty or to destroy the charm of our incomparable city.

In conclusion, if I may, I should like to refer in one more word to the motif, if I may call it so, of proportion and scale. What, after all, is proportion? What, after all, is true perfection in architecture? Why is it that you will so often hear people say that perhaps the most perfect building in the world is the Parthenon? Surely not merely because of its simple grandeur, nor because of the matchless choosing of its site and setting, nor because of the exquisite material of which it is composed, or even because of the crystal air which transmutes its very shadows into but another form of light. It is none of those things. It is because, I think, that if one is to attain ultimate and complete perfection in architecture, more perhaps than in any other of the forms of man's creative genius, it is necessary that some divine afflatus should have breathed over it.

The PRESIDENT, in reply: Every year in normal times this toast is drunk at our dinner, and every second year it is a new President who wrestles with the task of twisting his grateful reply so as to introduce a number of things he has already determined to say. Sir Philip Sassoon has given me excellent openings for a few of them, but for others I may have to be ingenious. For one, the occasion itself is a sufficient opening. The Institute this evening is not only a word, an idea, to our guests, but it is also the physical presence of a human company, and of a building of steel, stone and wood. Now what exactly is this Institute, and what is its reason for existence? What is its warrant for asking distinguished people to come to a dinner with speeches, when there are so many other delightful dinners in London with no speeches at all?

The Institute is a combination of architects formed in the interests of architecture; its reason for existence is that without combined effort those interests will scatter and languish. In other days its work was done by enlightened patronage, but in these days the light in patronage has nearly gone out. Our largest patron is now what we call the public, which not only needs our services but needs also to be told what those services are.

The " education of the public " is a nasty phrase used by those whose educational aim is that of inducing other people to buy what they themselves want to sell. Such people, speaking of " the public," generally do not include themselves

in it; in fact, they probably buy something quite different. The object of any learned society, however, must be the education of the public, its own members included; and in this sense the architectural education of the public is the primary object of the Royal Institute of British Architects. For this its library, its JOURNAL, its sessional papers, its studentships, its prizes and its scholarships exist; and for this it has embarked of late years upon its great enterprise of touring exhibitions.

I am not going to inflict on you any statistics of these activities, although if anyone thinks I am not speaking in a boasting spirit, that person is wrong. There is a great deal in these activities about which I should think anything less than a boasting spirit would be positively ungrateful. Yet nowhere can we relax any effort in pursuing and popularising our art, in imparting experience to the world outside, among ourselves, and to the students upon our threshold. Particularly, perhaps, must we impart it among ourselves, must we see that we become daily more worthy of the mission which we claim. We must know as well as possible that which we set out to teach.

Now every Associate of our Institute is, as it were, a guaranteed article, tested and approved by means of examinations. Our Licentiates are those whose record of serious architectural practice can be accepted in lieu of a test. Our Fellows are ex-Associates or ex-Licentiates mellowed by time. Now, examinations cannot prove any more of an artist than that he has the technical competence to express whatever may be in him. They can, however, detect whether an architect is or is not a person qualified to deal safely with your money and perhaps with your life. In short, they can establish whether a man who labels himself an architect is an architect in the sense that a doctor is a doctor or a lawyer a lawyer. This is a thing which the public needs to know for its own protection, and it cannot know it certainly until the Bill promoted by the Architects' Registration Council has become law. The strong agreement of the Institute with the purport of that Bill is, I think, already well known. The Bill's success would be valueless, however, if the examination standard required by the Board were to be in any way lowered; and that standard corresponds with the standard set and maintained by our Institute.

During the years since the last war many Englishmen have made a momentous discovery; they have discovered that as in private so in public affairs it pays to look ahead—to look ahead even further, perhaps, than the probable date of the next general election. To this novel, hazardous enterprise of looking before one leaps the name "planning" has been given, a name that naturally makes architects sit up and take notice. Now, planning is a very particular faculty which every student thinks he has by nature until he learns that he has not, and its cultivation is the special province of architectural education. By virtue of its possession, the young trained architect may sometimes be tempted to claim a little larger scope than should logically be accorded to him; he may claim to set himself up not only as an expert necessary in social reform but also as a social reformer himself. Such occasional presumption, however, must not be allowed to divert attention from the very wide usefulness in social work of minds trained to planning. A man who can successfully correlate what are now called the "services" in a large building—the water, the electricity, the gas—and can direct and make easy its internal traffic is not likely to make heavy weather of trifles like food supplies or munitions or the local distribution of labour.

Apart from all such grand capabilities, the ordinary services of an architect are continuously necessary in civilised life, and it is inevitable that there should rest upon our Institute a great and constant task of professional organisation. This the Institute pursues for the advantage of the architect in so far as that advantage is also the advantage of our national architecture, but no further. It repudiates, and I trust always will repudiate, any desire to hold up the outside public for sectional or professional ends. Of its organising activities this is not the time to speak, but the moment is perhaps appropriate for a word or two about one activity which is less one of organisation than of persuasion.

The Institute, as is well known, loses no opportunity of advocating and supervising architectural competitions. It holds that by this system only can progress be perpetually stimulated nowadays and young men assured of their chance. Competitions have their opponents, some of whom hold that they are too apt to be won by old hands, and others that old hands will not enter them; some, again, that they give the promoters too much for their money, and others that they cost too much money for what they give. I think that these objections can be left to cancel themselves out; but there is one objection sometimes brought that cannot be lightly dismissed. People are loth to leave the decision of a competition in the hands of a professional assessor, and yet without an absolute assessor architects very naturally will not spend the time and money on the preparation of competitive designs. The answer to this seems to me to be that unless you are certain that there is one man only whose work will please you—in which case, of course, you will go to him direct—it is much less risky to choose an assessor who himself will have much to choose from, rather than to choose an architect who can choose only from among the contents of his own mind. Mr. So-and-so may have done a very nice town hall somewhere else, but may produce a design for your town hall which you think simply horrid. A wisely chosen assessor will be fully informed as to the kind of town hall that you want, and in ninety-nine cases out of a hundred I believe will be able to see that you get it.

There is one extremely desirable thing that the Institute, I think, could not initiate, but which, speaking for myself, I should rejoice to see initiated by others. At present when an old building, good or bad, is threatened with destruction, the newspapers are filled with agonised protests; but when once the fight for its preservation is lost, nobody seems to care a tinker's curse what takes its place. Could not an architectural vigilance society be formed to divert a certain amount of the energy now spent on fighting lost causes into ensuring new beauties for the future? Usually the first that the public knows of what is to be built in conspicuous and familiar places is gathered from a horrid little picture stuck up on the hoarding, and, if the reality is soon seen to be even worse than the picture, it is then too late to say anything except with bombs. I know that much is already done under the panel system to mitigate the horrors of ill-advised new building, but, even if the panel system were universal in the country, there would be many occasions which called for weightier and more representative public criticism. We have the highest authority for saying that "it is a National-Socialist principle not to publish details of difficult problems in order to allow them to be discussed, but first to bring such plans to fruition and then to show them to the people. The great artists and architects are entitled to be freed from the criticism of their small con-

temporaries." This principle seems to be acted upon in England as well, but I am not sure that the artists and architects whom we free from criticism are always our great ones.

Government Departments are also apt to give us our share of surprises, but I think with Sir Philip Sassoon at the head of the one which to architects is the most important we can count on his surprises being generally very pleasant ones. His knowledge of the arts is well known, and we can congratulate our many friends upon his staff on their having to work for one who will use well and value their great abilities. The much more that I would like to say of him would only be appropriate if I were proposing the health of our guests instead of—as you may possibly remember—responding to the toast of the Royal Institute of British Architects. I must therefore content myself by saying how very deeply we feel the honour of the toast having been proposed by His Majesty's First Commissioner of Works, and how very deeply also we feel the honour of the toast having been proposed by Sir Philip Sassoon.

Mr. HENRY M. FLETCHER, M.A.Cantab., Hon. Secretary, R.I.B.A., then proposed the toast of "Our Guests."

He said: There was an occasion, famous in architectural history and familiar to all lovers of English poetry, when

Sir Christopher Wren
Said "I shall be dining with some men."

So far so good. But then the chronicler puts into his mouth these words:

"If anybody calls
"Tell them I'm designing St. Paul's."

Now, did Sir Christopher ask his maidservant to say that? Surely not! Look at that serene brow, those steady eyes, that firm, sensitive mouth, or read the direct and humorous letters in which he reasoned with his difficult clients! Can you believe that that man, when he had made up his mind to a pleasant evening with his friends, could stoop to a sneaking, hypocritical subterfuge worthy only of Mr. Pecksniff—an architect who, as we have lately been reminded, if he belonged to any architectural society at all must have attached himself to some other association and not to this Institute! No, Sir; the poet took the modern view of biography, fact and fiction fifty-fifty and all the fiction false! Wren knew, and his friends knew, that the design of St. Paul's would gain and not suffer by an occasional night out.

And so we of the Royal Institute of British Architects, when the year in its courses rings our dinner bell—do we shuffle off one by one to sit on high stools in a milk bar and tell the office boy to say that we are designing an abattoir? Do we not rather, like our great predecessor, proclaim frankly that we shall be dining with some men—and, in these happier days, with some women too—fling open wide the doors of the Florence Hall, turn on the Aurora Borealis in the ceiling and settle down to have a good time? For, in spite of the thunder clouds and in spite of the bogys and gollywogs who make frightful faces at us from across the water, we see no reason why we should neglect the ordinary human occupations of work and hospitality. Our motto is not the hysterical "Let us eat and drink, for to-morrow we die," but a briefer and a kindlier phrase, "And yours, my friends."

We take especial note, therefore, of Sir Christopher's preposition—not simply "dining," which would be dull, nor "dining for," which means that the hat will be going round, nor "dining on," which would be mere gourmandising, but "dining *with*." And to enhance and justify our enjoyment, we collect a galaxy of worthy bidden guests.

We are proud that they should come, and we thank them for coming. What a galaxy they are! How many sides of our national life do they represent! The House of Lords, the House of Commons, the Churches, His Majesty's Ministers, the Dominions, the Emerald Isle, the Government Departments, the Government of London, the Royal Commissions, the Universities and other institutions of learning and education, the Law, the Press, Societies for the preservation of good things, such as England—these and others are represented among us to-night. All these we warmly welcome. Their work differs from ours, and we admire and applaud it with an ignorance tempered only by our common citizenship.

There are others whom we are accustomed to meet and to work with in our everyday affairs, who talk the same "shop" as ourselves, who have the same outlook on the world as a place to make things in. These are the artists, the engineers, the building employers, the surveyors, the workmen in every trade of the industry, the men to whom we can talk of scale or grouping or texture, to whom the smell of mortar or of oak joinery is as the smell of new-mown hay, and the sound of nailing floorboards not less musical than that of a jazz band. These are the men who know what "circular circular work" is, and why you should mistrust a painter who tries to charge you an extra for "circular whitewashing!" We all of us feel that there must be something wrong with a man who does not understand our own particular lingo. You know how we always bawl at foreigners. From archbishop to architect we all appreciate a bit of shop, and so to these of our guests we give not merely a hostly but a brotherly greeting.

Mine has been, comparatively, an easy task. The French say of a particularly tempting dish "It lets itself be eaten," and so we may say of our guests to-night "They let themselves be praised." But for one man to represent these shining lights, to speak in the name of these varied distinctions, that is a job indeed! I am glad to say that it falls to the lot of Sir Eric Maclagan, to whom it will be child's play. Under his able and scholarly direction the Victoria and Albert Museum, the museum of museums for architects, has expanded its activities and become still more the radiant focus of civilisation which it always has been through the special exhibitions, lectures and concerts which he has arranged. He is always on the look-out to gather more treasures in, and we are glad to learn that he has just acquired one of the great rooms of Norfolk House, which the estate developers, with their unerring eye for what is fine and noble, have marked down for destruction, while they let the shoddy work fester until it has to be set alight by the Fire Brigade.

Years ago, when the Architectural Association migrated to Bedford Square, we flung at Sir Eric some 900 of the world's dirtiest plaster casts. He caught the lot with a sweep of his hand, turned on an army of expert cleaners and labellers, who worked like niggers for months and years, found room for them in his already crowded galleries, and crowned it all by thanking us warmly for the Augean task we had thrust upon him. The man who did that is fit to represent anything or anybody!

I saw with admiration and terror that the city of Sydney, in its exultation over its 150th birthday, gave a banquet where thirteen speakers took three mortal hours between them. That is a Test Match in which we at once admit ourselves beaten! For fear that you should think that I am a stone-

waller, I hasten to bid you drink with enthusiasm the toast of Our Guests, coupled with the name of Sir Eric Maclagan.

Sir ERIC MACLAGAN, C.B.E., F.S.A. [*Hon. A.*], The Director of the Victoria and Albert Museum, who responded, said : That the task of replying for the guests at a dinner of this magnitude and importance is at once an honourable and a responsible one needs no emphasising, and in consequence anyone who is called upon to undertake that duty has a perfectly well recognised gambit with which to open ; he naturally says that he fails to understand why the task was allotted to him when so many obviously more worthy and suitable persons are present in the same category. Your Hon. Secretary has made things easy for me ; he has lavished upon me compliments which I am only too conscious of not deserving. I can, however, offer you a better explanation of the reason why you have to listen to me. When I was a boy at school at Winchester, among many other admirable institutions there was one which laid down that when a prefect wanted anything done, and particularly anything which involved certain difficulties, he shouted in a loud voice and those who were liable to such duties were called upon to present themselves with proper promptitude before him, and the last to appear had to do the job. I was no doubt the last who replied to your invitation, and for a very excellent reason, because I was the last to be invited. Hence your present unpleasant situation, for which your Secretary is responsible ; I am not !

It is indeed a singularly difficult business to undertake this task. I rashly spoke of the usual gambit for beginning, but the unhappy person who is called upon to reply for the guests cannot even choose his own opening ; he is bound to play Black, because somebody else has played White first, and therefore he has to follow somebody else's lead and can look forward only to the inevitable stalemate which looms in front of him !

What, after all, does replying for the guests involve ? It is surely only a rather elaborate way of saying " Thank you." We have already thanked God for our good dinner, but we also have to thank the Royal Institute of British Architects. It would be only too simple if the replier for this particular toast were to say " Thank you " in the loudest voice at his command and to sit down ; but that will not do, because there are, after all, certain canons which govern the after-dinner speech. You are no doubt all familiar with the often-quoted recipe which lays down that an after-dinner speech should be like a woman's dress, short enough to give people something to remember and long enough to cover at any rate part of the subject. If a speaker this evening is to cover part of the subject of architecture, he has surely an immensely serious task before him, and I think that this is particularly obvious to anyone who is concerned with a museum, for I am quite certain that all the architects present—and there are architects present, as well as guests—would agree that architecture is in no sense a museum subject.

I say this with some diffidence, because I am well aware that of the departments in the museum with which I have the honour to be concerned there is one which is entitled " Architecture and Sculpture." I do not think that after the lapse of a good many years I shall be giving away any valuable Government secret if I explain why those words occur in that particular order. I was working in that department, under its then chief, when the museum was reorganised in 1909, and there was some question whether the department should be called " Sculpture and Architecture " or " Architecture and Sculpture." It is quite true that sculpture occupies by far the greater part of the department in question, but I ventured to urge that it was exceedingly important that it should be called " Architecture and Sculpture." Architecture is, as you know, the mistress art, and that is no doubt a sufficient reason for the order in question ; but that was not the reason which moved me, for, with a prescience which I cannot sufficiently admire, I realised that all the documents which were sent round the different departments of the museum would inevitably be sent in alphabetical order and that A was the first letter of the alphabet. Hence the fact that that department is described as " Architecture and Sculpture."

Although this is no doubt an inadequate reason from your point of view, I think we may justly claim that the Victoria and Albert Muesum has very real contacts with architecture ; and in particular I should like to say what has been said so often by other and more competent people, how specially glad we all were at the Victoria and Albert Museum to welcome the way in which the Royal Institute of British Architects launched out into that system of travelling exhibitions of which your President has already spoken and which does touch very nearly on work we ourselves do our best to attempt in the provinces.

There is also, and quite obviously, another respect in which the museum is closely connected with the activities of architects. We are called on now and again to do our best to preserve not architecture—because architecture cannot be preserved in a museum—but specimens of architectural decoration which otherwise would have perished. Your Hon. Secretary, in his kindly references to our activities, mentioned the fact that we are going to be privileged to preserve the music room from Norfolk House and thus to retain at any rate part of a building which itself is doomed to perish. As I say, we are only too conscious that the preservation of architectural details satisfies a very small part of the demand which exists so widely for the preservation of the works of the past, but at any rate, so far as we can fulfil it with our very limited space, we shall always be ready to do it.

I feel, however, that such activities as we may exercise in that respect are perhaps less hostile to your own interests than those which are being so widely advocated now by other bodies. Nothing could testify more clearly to the integrity and public spirit shown by architects than the fact that they continually support societies whose avowed aim is to take the bread out of their mouths. We have heard a great deal lately about the Georgian Group, whose most laudable aim it is to preserve for us the remains of Georgian architecture. But you cannot fail to be conscious of the fact that every Georgian building which is preserved prevents an architect of to-day from obtaining a commission of which he may stand in considerable need. That Georgian Group has been brought before the notice of the public with every possible emphasis, with what I might justly describe as a Byronic emphasis on the wrongdoings of Church and State. I warn you, however, that the Georgian Group is obviously only the precursor of other societies of similar aim. We are moving on in our appreciation, and it will be but a very little time before you find the " Victorian Vigilantes " also insisting on the intense importance of preserving the work of the great architects of a slightly later age. There will be a small but active subsection which will be described as the " Great Exhibition Group " whose particular object it will be to preserve the

beautiful buildings of that period which abound in the neighbourhood of the Victoria and Albert Museum ; a neighbourhood in which I have myself the good fortune to reside. All these bodies, as I have already said, will be dangerous to you. You must remember that the Georgian Group has obtained the highest pinnacle of fame by deserving a Fourth Leader in *The Times*, an honour which it has shared during the last week or so with two competitors so distinguished as Mr. Disney and Madame Tussaud. This is not, therefore, a threat to be lightly disregarded, and I would warn you of the danger which overhangs you.

I am bound to admit, however, that if that danger is averted your own future seems to be fairly secure. I do not know how many people nowadays read a poem which was very popular with our grandmothers, Owen Meredith's *Lucile*, but in that poem (which I can assure you from practical experience is well worth reading) there is contained a passage which has been preserved, a fly perhaps in amber ; a passage not infrequently quoted, in which the author eulogises and asserts the claims of the cook. I am sure that many of you will remember these lines, in which he says :—

" We may live without poety, music and art ;
We may live without conscience, and live without heart ;
We may live without friends ; we may live without books ;
But civilised man cannot live without cooks.
He may live without books—what is knowledge but grieving ?
He may live without hope—what is hope but deceiving ?
He may live without love—what is passion but pining ?
But where is the man that can live without dining ? "

Such a passage naturally occurs to the mind of anyone who has enjoyed so excellent a dinner as you have set before us this evening, but I think that I might justly claim that the architect shares with the cook this particular privilege. Their arts might in some sense be compared. One has only to look at your bill of fare this evening to appreciate the Doric solidity of your *Filet de Bœuf Richelieu*, the exquisite seventeenth-century style of your *Bombe Cyrano*, the Rococo grace of your *Caille Farcie du Foie Gras en Aspic*. But, even apart from such obvious analogies as those, it is clear that civilised man, who cannot live without cooks, also cannot live without architects ; for whereas the other artists are at any rate to some extent exercising a luxury profession, the architect is exercising a profession which is a necessity to all of us. If only you will succeed in avoiding the dangers which, as I have ventured to suggest, impend over you from the existence of these numerous societies for preserving the architecture of the past, your future cannot fail to be assured.

You may say, perhaps, that the question of your future is not one which concerns a speaker who is allowed to reply for your guests, but I venture to disagree with that view ; for, if you are not successful in the future, it will obviously be impossible for you to give any more dinner parties. And if you do not give any more dinner parties we cannot possibly have the good fortune to be invited !

Attendances at the Dinner

The following were present at the annual dinner, held in the Henry Florence Memorial Hall at the R.I.B.A. on Friday, 11 February :—

At the President's table :—

The Most Rev. His Grace The Lord Archbishop of Canterbury [*Hon. F.*] ; The Right Hon. the Earl of Bessborough, P.C., G.C.M.G. [*Hon. F.*] ; The Right Hon. the Countess of Bessborough ; The Rt. Hon. Lord Balfour of Burleigh ; The Rt. Hon. Lord Snell, P.C., C.B.E., LL.D., J.P. (Chairman, The London County Council) ; The Rt. Hon. Sir Philip Sassoon, Bt., P.C., C.B.E., C.M.G., M.P. (The First Commissioner of Works) ; The Hon. Vincent Massey, M.A.Oxon. (High Commissioner for the Dominion of Canada) ; Sir Walter Layton, C.B.E., C.H., LL.D. ; The Rt. Hon. Lord Wolverton ; Mr. J. W. Dulanty, C.B., C.B.E. (High Commissioner for Ireland) ; Sir William Llewellyn, G.C.V.O. [*Hon. F.*] (President, the Royal Academy of Arts) ; Sir Eric Maclagan, C.B.E., F.S.A. [*Hon. A.*] (Director of the Victoria and Albert Museum) ; The Hon. Mrs. Marten Dunne ; Mr. H. S. Goodhart-Rendel (President, R.I.B.A.).

The general company included :—

Col. A. L. Abbott, M.C., T.D., R.E. ; The Lady Aberconway ; Professor Patrick Abercrombie, M.A.Lvpl. (Vice-President, R.I.B.A.) ; Mr. James R. Adamson (Vice-President, R.I.B.A., Chairman, The Allied Societies' Conference) ; Miss Jocelyn F. Adburgham ; Mr. H. J. W. Alexander (Secretary, The Architectural Association) ; Mr. H. W. Allardyce ; Mr. R. Y. Ames ; Mr. C. G. Ammon, J.P., M.P. ; Mr. A. F. B. Anderson ; Mr. and Mrs. J. Argles ; Mr. W. H. Ansell, M.C. ; Col. A. M. O. Anwyl-Passingham, O.B.E., D.L. ; *The Architect and Building News* ; *The Architects' Journal* ; *The Architectural Association Journal* ; *Architectural Design and Construction* ; Mr. John Arkell (Assistant Secretary, The C.P.R.E.) ; Mr. and Mrs. Henry V. Ashley ; Mr. A. R. Astbury, C.I.E., C.S.I. ; Miss Anne Atkinson ; Mrs. and Mr. G. W. Atkinson (President, The West Yorkshire Society of Architects) ; Mr. Robert Atkinson, Hon.M.Arch.Lvpl.

Mr. Harold Baily ; Mrs. V. A. Baily ; Sir Ernest Bain, K.B.E., LL.D. ; Mr. and Mrs. Victor Bain ; Mr. F. G. Baker (Chief Clerk, R.I.B.A.) ; Mr. and Mrs. P. H. Banks ; Mr. G. H. Banwell ; Mrs. and Mr. Leslie Barefoot (President, The Suffolk Association of Architects) ; Capt. R. Barry ; Mr. and Mrs. T. P. Bennett ; The Hon. John Benson ; Mr. and Mrs. Ernest C. Bewlay ; Mr. Alderman W. H. Birch, J.P. (President, The National Federation of Building Trades Employers) ; Mr. Eric L. Bird (Technical Editor and Secretary, Public Relations Committee, R.I.B.A.) ; Mr. and Mrs. Percival C. Blow ; Mr. and Mrs. Darcy Braddell (Vice-President, R.I.B.A., Chairman, R.I.B.A. Board of Architectural Education) ; Mr. H. Chalton Bradshaw, C.B.E., Hon. M.Arch. (Secretary, The Royal Fine Art Commission) ; Mr. G. H. Braund ; Major and Mrs. Gordon L. Broad, O.B.E., M.C. ; Mr. H. B. Bryant (Secretary, The Building Industries National Council) ; Mr. F. John Buckland ; Mr. Herbert T. Buckland ; Mr. L. H. Bucknell (President, The Architectural Association) ; *The Builder* ; *Building*.

Mrs. A. Carritt ; Mrs. and Mr. Edward J. Carter, B.A.Cantab. (Librarian and Editor, R.I.B.A.) ; Mr. and Mrs. A. N. Cathcart ; Mr. and Mrs. G. D. Cathcart ; *The Central News* ; Mr. E. Graham Clark, M.C., B.Sc. (Secretary, The Institution of Civil Engineers) ; Mr. Harold Claughton ; Mr. Sydney Clough, A.R.C.A. ; Mr. Robert Cobb (President, The Chartered Surveyors' Institution) ; Professor H. J. Collins, M.Sc. ; The Rev. James Colville, M.A. (President, The National Council of the Evangelical Free Churches) ; Mr. W. A. Comber ; Mr. Wilbraham V. Cooper ; Mr. Richard Coppock (General Secretary, The National Federation of Building Trades Operatives) ; Professor H. O. Corfiato, S.A.D.G. ; Mrs. M. Corin ; Mr. Romilly B. Craze ; Mr. Kenneth M.

B. Cross, M.A.Cantab.; Mr. and Mrs. Norman Crump; Mr. and Mrs. H. L. Curtis.

The Daily Telegraph and Morning Post; Mr. J. W. Davies; Mr. H. H. Dawson; Mr. G. A. Dean; Mrs. and Mr. John L. Denman (President, The South-Eastern Society of Architects); Mr. Claud E. Dennis; Mr. Derek R. R. Dick, B.Sc.; Mr. Norman A. Dick (President, The Glasgow Institute of Architects); Mr. and Mrs. Harold Dicksee; Mr. C. Dixon; Mr. R. Fielding Dodd; Mr. S. B. Donkin (President, the Institution of Civil Engineers); Sir Patrick, K.C.B., C.V.O., J.P. (Secretary, H.M. Office of Works) and Lady Duff; Mr. and Mrs. W. Duncan, B.Sc.

Mr. and Mrs. J. Murray Easton; Mr. and Mrs. C. E. Elcock; Mrs. B. A. Whittaker Ellis; Major Phillip Evans; *The Exchange Telegraph Co., Ltd*

Col. F. N. Falkner, O.B.E.; Mr. and Mrs. Ewart W. Fisher; Mr. L. E. Fisher, B.Sc.; Sir Banister (Flight) Fletcher, M.Arch., F.S.A., F.S.I. (Past President, R.I.B.A.), and Lady Fletcher; Mrs. and Mr. Henry M. Fletcher, M.A.Cantab. (Hon. Secretary, R.I.B.A.); Mr. William A. Ford; Mr. W. H. Forsdike (President, The Institute of Builders); Mr. and Mrs. J. H. Forshaw, M.C., M.A., B.Arch.Lvpl.; Mr. J. Leighton Fouracre; Mr. C. S. Freeman.

Mr. Richard Garbe, R.A. (Master, The Art Workers' Guild); Mr. John V. Gedge; Mr. A. Burnard Geen, M.Inst.C.E.; Mrs. and Mr. John Gloag [*Hon. A.*]; Mr. Winter Goode; Mr. Laurence M. Gotch; Mr. R. Grant-Ferris, M.P.; Mr. G. Hastwell Grayson (President, The Berks, Bucks and Oxon Architectural Association); Miss Grayson; Mr. A. W. Green; Mrs. and Mr. W. Curtis Green, R.A.; Mr. Conrad Gribble; Mr. H. G. Griffin, C.B.E. (Secretary, The Council for the Preservation of Rural England).

Mr. and Mrs. E. Hagger; Mrs. and Mr. E. Stanley Hall, M.A.Oxon.; Mr. William Hall, F.S.I.; Mr. and Mrs. Stanley Hamp; Sir Edward Harding, K.C.B., K.C.M.G. (Permanent Under-Secretary for the Dominions); Mr. J. Stockdale Harrison; Mrs. and Mr. Everard Haynes, B.A.Oxon. (Secretary, The R.I.B.A. Board of Architectural Education); Mr. P. E. G. Heffer; Mr. and Mrs. H. J. Higgs; Mrs. and Mr. Charles H. Holden, Hon. Litt.D.; Mr. G. R. Holland (President, The London Master Builders' Association); Mr. R. M. Holland-Martin, C.B., F.S.A. [*Hon. A.*] (President, The Architecture Club); Miss Adeline Hone; Mrs. and Lt.-Col. P. A. Hopkins, O.B.E. (Hon. Treasurer, R.I.B.A.); Miss Hopkins; Mr. J. D. Hossack, O.B.E.; Mr. James F. Howes; Mr. G. J. Howling (Editor, *The Builder*); Mr. J. S. Hunter; Mr. W. H. Hutton.

Mr. F. L. Jackman; Mr. S. A. Jewers; Mr. and Mrs. Francis Jones; Mr. I. Ernest Jones, M.A. (Joint Secretary, The National Federation of Building Trades Employers); Mr. P. H. Jowett, A.R.C.A. (Principal, The Royal College of Art).

Mr. C. Kent-Wright; Mr. and Mrs. Arthur W. Kenyon; Major A. H. Killick, D.S.O., M.C. (Secretary, The Chartered Surveyors' Institution); Mrs. and Mr. A. B. Knapp-Fisher, Hon. A.R.C.A.

Mr. W. R. M. Lamb, C.V.O., M.A. (Secretary, The Royal Academy of Arts); Lt.-Col. and Mrs. H. M. Lambert; Mr. H. Leighton; Mr. Hubert Lidbetter; *The Liverpool Daily Post*; Mr. Reginald W. Lone; Mr. C. W. Long; Mr. J. A. Lovat-Fraser, M.P.; Mr. Charles H. Lovell; Mr. W. F. B. Lovett.

Sir Ian, M.A.Oxon (Secretary, R.I.B.A.) and Lady MacAlister; Mr. F. W. Mackenzie; *The Manchester Guardian*; Lt.-Col. S. C. Marriott, T.D.; Mr. H. C. Mason, O.B.E.; Mrs. and Mr. Malcolm W. Matts; Mrs. and Mr. Edward Maufe, M.A.Oxon; Mr. and Mrs. F. J. Maynard; Sir George Middleton, J.P.; Sir William Milner, Bt., M.A.Oxon, F.S.A.; Mrs. and Mr. C. Anthony Minoprio, M.A.; Lt.-Col. Sir Thomas Moore, C.B.E., M.P. [*Hon. A.*]; The Rev. R. Mortimer, M.A.; Mr. and Mrs. W. J. Mountain; Mr. C. M. Mouritz; Mr. S. G. Muir, M.C. (Vice-President, The Incorporated Society of Auctioneers and Landed Property Agents); Mr. John Murray.

The National Builder; *The News-Chronicle*; Mr. Godfrey Nicholson, M.P.; Mr. Kenneth Nicholson.

Major H. Oliver, T.D.

The Hon. Humphrey A. Pakington; Mr. J. Herbert Pearson; Mr. I. C. Perrott, M.C. (Reporter); Sir Robert H. Pickard, F.R.S., D.Sc. (Vice-Chancellor, The University of London; Mr. Oliver S. Portsmouth (President, The South Wales Institute of Architects); *The Press Association*; Capt. H. Pridham; Major W. G. Pringle, M.C.

Mr. and Mrs. Stanley C. Ramsey; Mr. W. H. Richards; Mrs. and Mr. Eric Rigby-Jones, M.C.; Mr. and Mrs. A. Leonard Roberts (President, The Hampshire and Isle of Wight Architectural Association); Mr. A. Douglas Robinson.

Mr. and Mrs. Ingalton Sanders; Mr. Archibald Scott, M.B.E.; Sir Giles Gilbert and Lady Scott, Hon. D.C.L., Hon. LL.D., R.A. (Past President, R.I.B.A.); Mr. T. A. Shackles (President, The Faculty of Architects and Surveyors); Mr. Evelyn C. Shaw, C.V.O., Hon. LL.D. [*Hon. A.*] (Hon. General Secretary, The British School at Rome); Colonel Sir John Shute, C.M.G., D.S.O., D.L., M.P.; Col. Thomas Sinclair, C.B., M.D., F.R.C.S., M.P.; Mr. H. Nevil Smart, C.M.G., O.B.E.; Mr. Francis E. J. Smith (President, The Law Society); Mr. and Mrs. Alec Smithers; Miss B. N. Solly (Secretary, The Architects' Benevolent Society); Mr. and Mrs. John C. S. Soutar; Mr. C. D. Spragg (Assistant Secretary, R.I.B.A.); Mr. E. W. Sprott; Mr. W. P. Steel (Assistant Librarian, R.I.B.A.); Mr. A. K. Steven; Mr. John Stevenson (Secretary, The Incorporated Society of Auctioneers and Landed Property Agents); Mr. H. S. W. Stone; Miss Barbara Sullivan; Mr. L. Sylvester Sullivan; Mr. John Swarbrick; Mr. Cyril Sweett.

Mrs. and Mr. Sydney Tatchell (Chairman, The Architects' Registration Council of the United Kingdom); Mr. J. Amory Teather (President, The Sheffield, South Yorkshire and District Society of Architects and Surveyors); Mr. and Mrs. T. O. Thirtle; Mrs. and Mr. Percy E. Thomas, O.B.E., Hon. LL.D. (Past President, R.I.B.A.); Mr. F. C. Thompson, F.S.I.; Mr. R. Thorburn; Sir Arnold and Lady Thornely; *The Times*; Mrs. and Mr. G. Mackenzie Trench, O.B.E.; Mr. A. C. Tripe.

Mr. H. S. E. Vanderpant [*Hon. A.*]; Mr. H. J. Venning.

Mr. Raymond Walker; Major Frank Wallis, M.C.; Mr. and Mrs. E. B. Walton; Mr. Basil R. Ward; Mr. N. O. Waumsley; Mr. E. Berry Webber; Sir James G. West, O.B.E.; Mr. Pembroke Wicks, C.B.E., LL.B. (Registrar, The Architects' Registration Council of the United Kingdom); Mrs. Pembroke Wicks; Mr. J. S. Wilson, M.Inst.C.E. [*Hon. A.*]; Mr. and Mrs. Morris L. Winslade; Mr. W. L. Wood (Editor, *The Architect and Building News*); Mr. and Mrs. G. Grey Wornum.

The Yorkshire Post.

THE HEALTH, SPORT AND FITNESS EXHIBITION

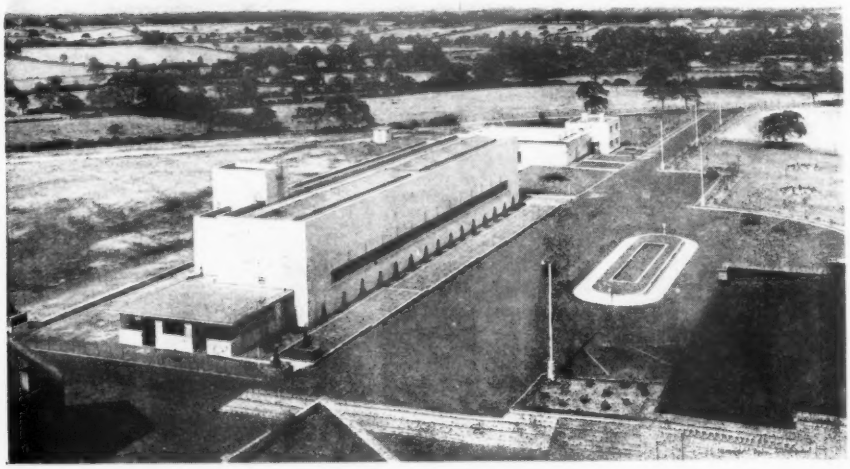
2 to 31 MARCH 1938

On Wednesday, 2 March, at 3.30 p.m., Lord Aberdare, Chairman of the National Fitness Council, is to open "Health, Sport and Fitness"—the R.I.B.A.'s major exhibition in 1938. The subject is a popular one and great interest has already been aroused in the Exhibition, both in the Press and among societies and institutions interested in the multifarious subjects embraced by the title; many of these bodies have given very useful collaboration.

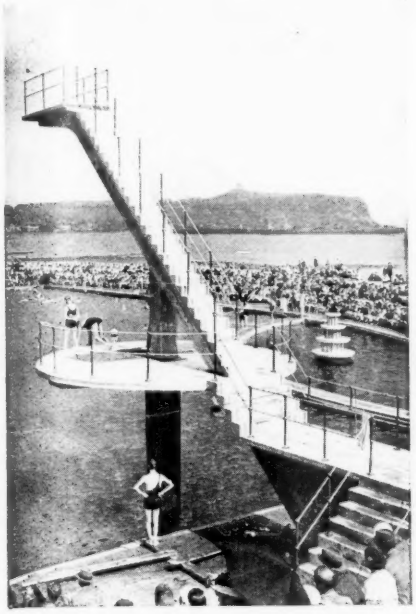
The Exhibition Committee have had before them two main objectives. The first is to show that national health depends first on a policy and its resultant practice that are in the executive hands of many technicians, of which the architect is the most important. It is the architect who, in his everyday practice, is responsible for healthy buildings, good lighting, safe sanitation and a host of similar creative health measures. This section is appropriately called "Everyday Health" and has for sub-sections "National Health and Town Planning," "Healthy Living and Working Conditions," "National Health and Public Services," and "National Health and the Processing, Distribution and Preparation of Food."

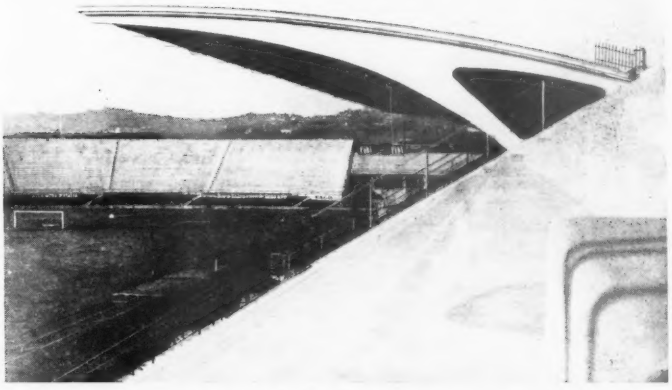
The second objective is to show how the Government's campaign to improve national health, as expressed in the Physical Training and Recreation Act, 1937, can be met in regard to its planning and building requirements. This is shown in three main sections and a central model.

The "Open Space" section deals with playing-fields and parks of all types, open spaces and planting in towns, etc. "Buildings for Sport and Recreation" contains a huge array of photographs of sports buildings such as stadia, open and covered swimming baths, gymnasia, pavilions and boat-houses,



Above: "Ski-ing," a photograph lent by the Swiss Federal Railways. Below: The Pithead Baths at Coventry Colliery illustrating "Healthy Living and Working Conditions." Architects: J. H. Forshaw and W. A. Woodland.





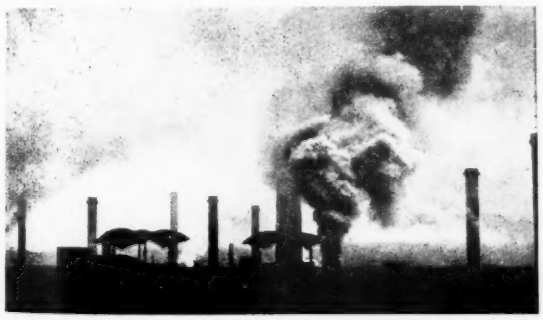
Above: From "Buildings for Sport and Recreation." Left: A diving stage at Scarborough. Right: The Berta Stadium, Florence; architect, Luigi Nervi. Below: From "Healthy Living and Working Conditions." Right: A cottage estate, Liverpool; architect, L. H. Keay. Left: A photograph lent by the National Smoke Abatement Society

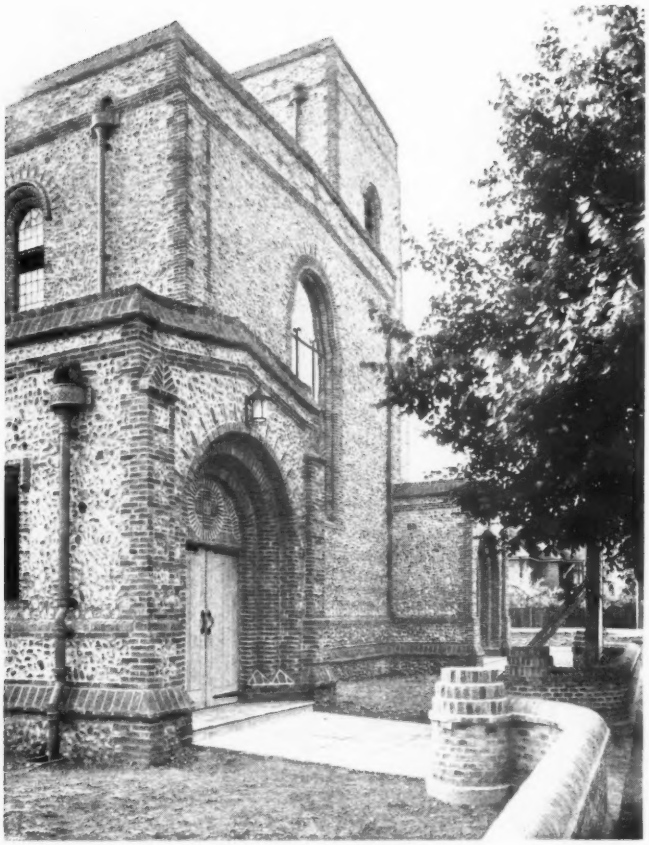
drawn from all over the world. The third of these sections is entitled "Escape from the Town," and deals with the buildings for holiday life such as week-end cottages, holiday camps and youth hostels.

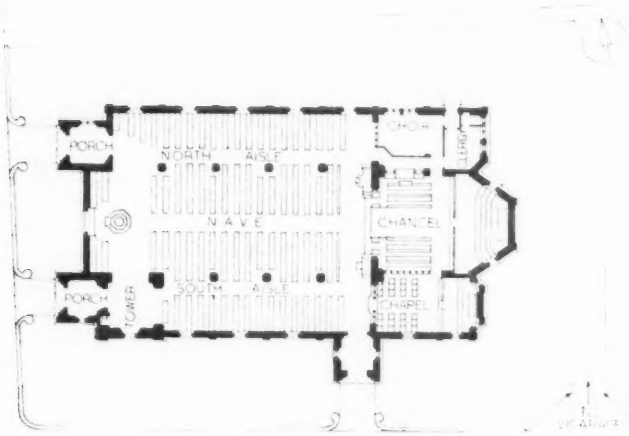
A large central model, 13 feet by 10 feet, illustrates the ideal Sports Centre for a town of 250,000 inhabitants. A feature of the scheme is that it can be built in sections. This is the type of Sports Centre which the Physical Training and Recreation Act, 1937, is intended to promote.

A series of lectures to take place in the Henry Jarvis Hall has been arranged as follows:—"The Object of the Exhibition," by Mr. John Gloag, on Wednesday, 2 March, at 5 p.m. "Health and Welfare," by Dr. J. Graham Forbes, F.R.C.P., on Wednesday, 9 March, at 6.30 p.m. "The Rights of Leisure," by Mr. A. J. A. Symons, on Tuesday, 15 March, at 6.30 p.m. "Organising Sport," by Mr. W. W. Wakefield, M.P., on Wednesday, 23 March, at 6.30 p.m.

Individual members can do a great deal towards ensuring a successful attendance at the Exhibition by making it known among their friends and by attending themselves, either when it is on view in London or in the nearest provincial town. Though primarily intended for the general public the Exhibition contains an immense amount of information of technical interest to the architect. Admission to both the Exhibition and the lectures is free. Members attending the opening ceremony will not require invitation cards.







PLAN

SAINT ALBAN'S CHURCH, LAKENHAM, NORWICH

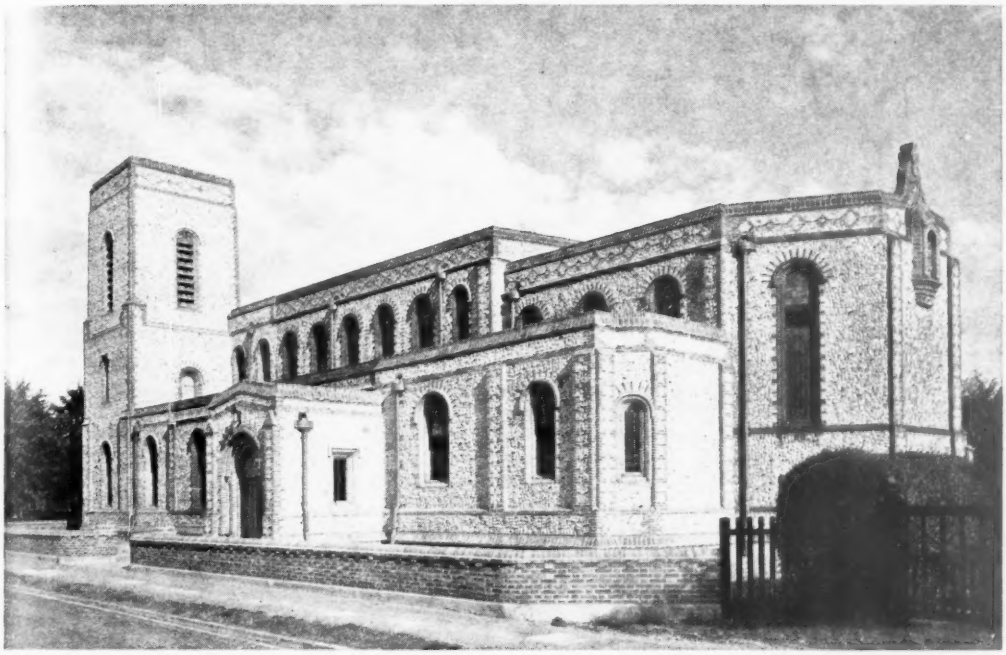
Architect: CECIL UPCHER [F.]

This church has been built in sections over a number of years, and serves a new suburb of the City of Norwich. The site is at the junction of two roads, and has allowed the usual orientation. The structure accords with the Norfolk tradition of flint and brick walls, with roofs of flat pitch. As an essay in flint and brick the building is very interesting, and shows very great care for detail. The bricks are 2-in. Luton greys; they have been used as bonding headers in the flintwork as well as for dressings. The building has three foundation stones, one each from the cathedrals of Canterbury, St. Albans and Norwich.

The form of the church also follows Norfolk tradition in having a narrow nave and aisles and a range of close-set clerestory windows. The roofs are of reinforced concrete in ribs and panels, the soffits being left plain from the formwork, the ribs emphasised by a simple but attractive colour scheme. The upper surfaces are waterproofed with ply bituminous roofing. The internal walls are covered with plaster, finished with a rough texture from the hand float and having a buff-coloured plinth. Teak blocks have been used on the nave and aisle floors; the doors, pulpit and sanctuary furniture are of oak, lime treated.

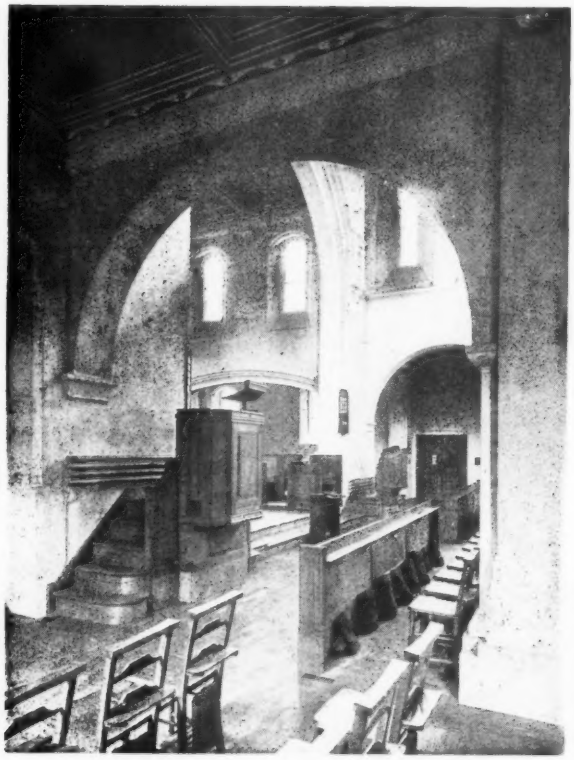
The interior owes much of its charm to subtle harmonies of colour. The nave roof ribs are picked out in plain bands of green and white, with a wave pattern in the same colours at the

Above: A view of the west end showing details of the interesting brick and flint work



The view from the south-east shows the careful modelling of the building. The niche at the east end is to contain a figure of St. Alban

The nave. The form of the church follows the Norfolk tradition of aisles, narrow nave and high clerestory



Looking from the north aisle across the sanctuary arch. Part of the colour work on the concrete roof in green, white and red can be seen

abutment. The darker aisle roofs have the same treatment, but with touches of red. The same shade of royal blue has been repeated in the sanctuary carpet, the kneelers, the banner, the hymn books and the hymn boards. The same colour recurs in the altar side curtains and with gold in the altar cross and candlesticks. The altar cross, candlesticks and processional cross were designed by the architect. The side altar, which came from the earlier temporary church, has hangings in two shades of green and gold and a beige carpet.

The St. Alban's cross, also a sword and anchor, are modelled in plaster as lunettes over the three main doors. There is a niche on the east end where it is hoped eventually to place a figure of St. Alban.

Lighting is by means of direct floods in the sides of the clerestory windows. Heating is by electric tubes under the chairs, radiant panels in the sanctuary and tubes under windows at high level.

Looking up the south aisle. The walls are white plaster with a buff-coloured plinth. The floor is teak blocks

THE SOCIAL COMMITTEE'S BIG PARTY

The Social Committee party on 7 February was the most successful that there has yet been at the R.I.B.A.

From the moment of arrival, shortly before nine, it was evident that it would have been a disastrous mistake to come any later. Already cars were parked along the whole length of Portland Place and round the curves of Park Crescent to the kerbs of Marylebone Road.

People in the cloakrooms, in the ladies' room at least, were growing frantic that they would be late for Lucrezia Borgia's Little Party in their battle to rid themselves of cloaks and furs while struggling against the inrush of still later comers. But in the lecture hall at last, some time before the show was due to start, one was glad to have spirit left brave enough to press to the front where more reticent people had left a few places in an otherwise crowded hall.

In a seat, grateful for one's luck in getting a seat at all, one could for a moment listen-in to the conversation of excited approval of the party or the cynical comment from some distinguished modernist on the pseudo-classic stage set, and observe with approbation the style of one's neighbour's jewels or sniff the scent of her spring flowers and generally feel in what fine gay company one was !

The stage went dim ; the audience, quiet at last, could see the players take their places in the silhouetted group with which the play began. Lucrezia Borgia's was a party which one would any day rather see than be party to. But when it was over and people could satisfy desires for refreshment more dependable than Lucrezia's, the refreshment rooms were filled with the bubble of appreciative comment that the play had been all the complimentary things that people call plays : " charming," " clever," " extremely well acted and produced," all of which and more it and its actors and producer deserved.

Dancing began at 10 o'clock for the people who had managed to get to the first performance, while those who had not crowded down for the second performance. There was a sense of spring in the Henry Florence Hall, with flowers round the band platform that refined if they did not relieve the rapidly intensifying atmosphere which made one wonder whether the ventilation was as successful as the lighting and heating ! At 11 o'clock the dancers were forced back to form an open circle, which the band conductor announced authoritatively was not large enough yet for Senorita Emma Marques to dance Spanish dances. So, gracefully if reluctantly, we forced ourselves back still more to enjoy the sweeping curves of the dances and listen charmed by the sound of castanets.

At last this full successful evening ended for the eight hundred or so people who had come to it. The Social Committee and the individuals who planned and carried out the ambitious programme of the evening deserve, and most certainly have gained, the gratitude of everyone who was there.

Lucrezia Borgia's Little Party

By A. J. TALBOT

PRESENTED BY THE R.I.B.A. DRAMATIC SOCIETY

PRODUCED BY GILBERT KENDREW

CAST OF CHARACTERS

CESARE BORGIA, Duke of Romagna — *Robert Hunt*

LUCREZIA BORGIA, Duchess of Ferrara, his sister — *Elma Thomas*

ISABELLA D'ESTE, Lucrezia's sister-in-law — *Prudence Smith*

FIAMMETTA STROZI, kinswoman of Isabella — *Gertrude Leverkus*

RICHARDO RIDOLFI, serving in Cesare's army — *Robert Crowe*

NICOLO MACHIAVELLI — *John Terry*

LEONARDO DA VINCI — *Alan Stamford*

BALDASARRE, a servitor — *Nils Lindstrom*

TESSA, a serving-wench — *Carmen Smith*

Costumes and set designed and made by GILBERT KENDREW.

SCENE : The dining room in an Italian villa.

TIME : An evening in A.D. 1502.

The R.I.B.A. Dramatic Society would welcome new members and all members of the Institute who are interested in dramatic work are invited to get in touch with the Hon. Secretary, Miss G. W. M. Leverkus, 5 Gower Street, W.C.1.

Play Readings are held alternately on the first Monday and Wednesday of each month (guests may attend on these occasions) and a full-length production is being planned for performance at the R.I.B.A. on 19, 20 and 21 May.

REVIEW OF PRACTICE

Placing of Contracts

On the recommendation of the Practice Standing Committee the memorandum on the placing of Sub-Contracts, which was published in the JOURNAL *of 23 January 1937, has been slightly modified to meet the views of the Ministry of Health.*

The revised memorandum, which was approved by the Council on 7 February, is as follows :—

PLACING OF SUB-CONTRACTS

It is suggested that architects might, in certain instances, hand a copy of the following memorandum to their clients prior to the signing of the main contract.

MEMORANDUM

The attention of authorities and others concerned in the erection of public or other important buildings is called to the desirability of all sub-contracts for specialist works being placed by the principal contractor at as early a date as possible after the signing of the main contract.

If this procedure is adopted, the delays and consequent loss frequently experienced in building work can be largely obviated, as the principal contractor is enabled to organise the work of the various sub-contractors so that one trade follows another in proper sequence, and loss of time is avoided.

It is one of the duties of the architect to obtain tenders for the work involved in these sub-contracts, and to instruct the principal contractor therein, and it is in the best interests of the employer that he should do so, as it guarantees that due regard will be given to the three essentials of materials, workmanship and cost. If this procedure is not followed, the benefit of the architect's knowledge and experience is lost to the employer.

Careful discrimination is necessary in the selection of sub-contractors invited to tender, and those selected should be firms of equal standing and well skilled in the particular work ; cost is not the only factor to be considered.

If, under special circumstances, the employer wishes to depart from the usual custom, the architect and the principal contractor should be so informed before the main contract is signed, and their responsibility concerning any sub-contracts for which the architect has not obtained tenders should be regularised.

In public works, whilst the Ministry of Health agree that section 266 of the Local Government Act, 1933, and any Standing Orders made pursuant thereto, do not apply to sub-contracts entered into by the main contractor, and to which the local authority is not a party, yet it is considered that competitive tenders for sub-contracts should be obtained wherever practicable. In normal cases, and particularly in the case of important sub-contracts (such as for the main structural and mechanical engineering work in a large building), tenders should be invited by public advertisement. In special cases, however (for example in connection with the furnishing of a building), where it is known that only a few firms supply the kind and class of goods required, tenders from selected lists of firms may suffice.

Salaried Members

THE FORMATION OF SALARIED MEMBERS' COMMITTEES BY ALLIED SOCIETIES OF THE R.I.B.A.

On the recommendation of the Salaried Members' Committee the Council at their meeting on 7 February authorised the sending of the following letter and enclosure to the Hon. Secretaries of all Allied Societies in the United Kingdom, at the same time approving the suggestion that they should be published in the JOURNAL so that salaried members throughout the country should be fully aware of the action taken :—

15 February 1938

DEAR SIR,—The Salaried Members' Committee of the Royal Institute have had under consideration the desirability and possibility of the appointment of Salaried Members' Committees by all the Allied Societies of the R.I.B.A.

The Committee have decided that such a step is most desirable and would be most beneficial both to salaried architects and to private practitioners. Apart from the obvious local benefits it is considered that a complete network of provincial committees linked with the present headquarters Committee would greatly increase the effectiveness of the latter.

This suggestion has been fully approved by the Council of the R.I.B.A., who hope that an active Salaried Members' Committee will be set up by every Allied Society.

It is suggested that the following would constitute the main aims of such Salaried Members' Committees.

(1) The advancement of Architecture and the unification of the Profession.

(2) Insistence on the policy that, for efficiency and economy, architectural work financed by public funds should be executed by qualified architects in private practice or employed on a salaried basis, without the intervention of members of any other profession; as helping the ultimate aim of the general employment of qualified architects for all building work.

(3) The general adoption of the R.I.B.A. Scale of Salaries.

(4) To bring the Scale of Salaries to the notice of County, Local, Municipal and other authorities in the Area, and to report to the headquarters Committee from time to time as to its reception and operation.

(5) To scrutinise local public appointments and, where necessary, to take action with a view to obtaining proper remuneration and conditions of employment.

(6) To encourage salaried architects generally to conform to the Code, as laid down by the Council in regard to carrying out private work (a copy of which is enclosed).

The Committee wish to stress the fact that salaried architects properly remunerated are complementary to—not competitive with—architects in private practice and that if there is not proper equilibrium between the remuneration of the two classes there is grave danger to the status of the profession and the ability to maintain the R.I.B.A. Scale of Fees. The Committee therefore recommend that the local committees should be representative of both classes in equal numbers. It is also considered that Salaried Members' Committees would function better in conjunction with local Public Relations Committees.

The headquarters Salaried Members' Committee would always be glad to have general matters of principle referred to them, and in this way would act as a co-ordinating Committee.

I should be glad if you will bring this matter to the notice of your Council at the earliest opportunity, and hope that they will decide to adopt the suggestions made herein.

Yours very truly,

IAN MACALISTER,
Secretary.

(Enclosure to the above letter.)

WHOLE-TIME OFFICIALS AND PRIVATE WORK.

On 7 March 1932, on the recommendation of the Salaried Members' Committee, the Council approved the following principles governing the questions of whole-time officials engaging in private work :—

(1) It is not desirable for a whole-time official architect or assistant to carry out private architectural commissions, except they be private commissions of a personal nature. In executing such commissions, the Code of Professional Practice is as binding on an official architect as on a private practitioner.

(2) In cases of complaint by fellow members, these should be laid before the R.I.B.A., who shall approach the member complained of. In no circumstances shall any representation either from this Institute or from any individual member be made to the employer.

(3) To prevent abuse, or the suspicion of abuse, no official shall either directly or indirectly undertake the preparation of plans for private work which have to be submitted for approval to the office in which, or the authority by whom, he is employed.

By a resolution of the Council dated 3 April 1933 architects whose main occupation is teaching in Architectural Schools are not intended to be included in the term "whole-time official" within the meaning of this report.

Review of Periodicals

Attempt is made in this review to refer to the more important articles in all the journals received by the Library. None of the journals mentioned are in the Loan Library, but the Librarian will be pleased to give information about price and where each journal can be obtained. Members can have photostat copies of particular articles made at their own cost on application to the Librarian.

Reprints of these reviews, printed on slips suitable for cutting up and mounting on cards, can be had from the Library. A subscription of 5s. covers a year's issues.

All the journals received in the Library (about 200) are indexed, reference being made to all important articles and illustrations so that subscribers can have a constantly expanding index to practically every type of building illustrated in the architectural journals of the world.

Members wishing to have reprints of previous issues can do so on payment of 3d. per issue to the Librarian Editor.

It is hoped to print them on gummed paper as soon as a large enough number of members subscribe.

SCHOOLS

ARCHITECTS' JOURNAL. *1938. 3 and 10 February. PP. 217 and 253.*

Senior Schools. Continuation of series of articles. The planning of class rooms.

BUILDER. *1938. 11 February. P. 301.*

Lady Eleanor Holles School, Hampton, Middlesex, by F. S. Hammond [*L.*].

ARCHITECT AND BUILDING NEWS. *1938. 4 February. P. 155.*

School Journey Home, New Romney, Kent. Centre for accommodating parties of blind children, by Elcock and Sutcliffe [*FF.*].

ARCHITECT AND BUILDING NEWS. *1938. 4 February. P. 163.*

A School in Vienna, by Wilhelm Baumgarten. An example of a large, six-storey school on a limited site.

UNIVERSITIES

ARCHITECTS' JOURNAL. *1938. 3 February. P. 202.*

Proposed new building for Christ's College, Cambridge, by Gropius & Fry. Shops, sets of undergraduates' and fellows' rooms, and a tutor's house. Steel frame, panel walls faced Ketton stone.

OBSERVATORY

BOUWKUNDIG WEEKBLAD ARCHITECTURA (AMSTERDAM). *1938. 29 January. P. 33.*

Observatory at Eindhoven, designed by L. C. Kaeff.

MUSEUMS AND EXHIBITIONS

BYGGMÄSTAREN (STOCKHOLM). *1938. No. 8. P. 9.*
Malmö Museum, by Carl-Axel Stoltz.

L'ARCHITECTURE REVUE MENSUELLE (PARIS). *1938. 15 January. P. 31.*
New winter garden at the Natural History Museum, by M. Berger.

CASABELLA (MILAN). *1938. January. P. 14.*
Textile Exhibition. Good modern display technique.

CLUB

ARCHITECTS' JOURNAL. *1938. 10 February. P. 243.*
Social club and administrative offices of the Italian colony in London. Alterations to a former warehouse in Charing Cross Road, by Michael Rachlis.

RADIO

L'ARCHITECTURE D'AUJOURD'HUI. *1937. December. P. 34.*
Broadcasting Stations. A fifty-page section, including article on technical characteristics of a broadcasting station, and, among many, illustrations of stations at Marseilles, Nice, Rennes, B.B.C. (London) and British transmitting stations, police broadcasting station at West Wickham, and an article on stations in the U.S.A.

OFFICES

ARCHITECTURAL REVIEW. *1938. February. P. 67.*
Office building in Leicester Square, including a small cinema (400 seats), by Wimperis, Simpson and Guthrie [*FF.*].

ARCHITECT AND BUILDING NEWS. *1938. 11 February. P. 191.*
Office building for a glass syndicate, by O. P. Bernard [*L.*].

ARCHITECT AND BUILDING NEWS. *1938. 11 February. P. 187.*
Offices and showrooms for the Gas Light and Coke Co., Edgware Road. A building by Robert Atkinson [*F.*], including a small demonstration theatre.
Travel agency in Haymarket, W., by the same architect.

SHOPS

BUILDING. *1938. February. P. 51.*
Shop premises for John Barnes, with flats on upper floors, by T. P. Bennett & Son [*F.*].

TRANSPORT

MODERNE BAUFORMEN (STUTTGART). *1938. February. P. 113.*
Petrol stations, car parks and garages. American, British, Swiss and German examples.

L'ARCHITECTURE REVUE MENSUELLE (PARIS). *1938. 15 January. P. 21.*
Le Bourget Airport. Georges Labro, architect.

FORUM (BRATISLAVA). *1938. No. 1. P. 9.*
Airport buildings, Budapest, by V. Bierbauer and L. Králik.

HOSPITALS

ARKKITEHTI (HELSINGFORS). *1937. No. 12. P. 177.*
Buildings for the provincial hospital at Turku. Accommodation for 520 patients.

CINEMAS

REVISTA DE ARQUITECTURA (BUENOS AIRES). *1937. December. P. 534.*
Gran-Rex Cinema-theatre, by A. Prebisch.

RELIGIOUS

ARCHITECTS' JOURNAL. *1938. 10 February. P. 259.*
Methodist Church, Timperley, Cheshire, by Chippindale and Needham. 400 seats ; brick piers and cavity walls.

DOMESTIC

ARCHITECTURAL REVIEW. *1938. February. PP. 57 & 75.*
Good examples of modern timber houses, in Kent by Gropius and Fry, at Mongewell, Oxon, by Nuttall Smith and David Booth, and at Milton, Mass., by R. B. Wills.
Fourteen-storey blocks of shops and flats, with lounge, restaurant, etc., on the sea front, St. Leonards ; by Dalgliesh and Pullen.

BUILDER. *1938. 11 February. P. 295.*
Housing at Liverpool. Paper on redevelopment schemes under the Housing Act, 1936, by L. H. Keay [*F.*].

JOURNAL OF THE INSTITUTE OF MUNICIPAL AND COUNTY ENGINEERS. *1938. February. P. 1209.*
Practical Aspects of Housing Design. A long and detailed paper by B. Price Davies [*F.*].

ARKKITEHTI (HELSINGFORS). *1937. No. 12. P. 185.*
Apartment building belonging to a factory. Small flats, two rooms and kitchen, with baths and washhouses in basement and shops at ground floor level.

MODERNE BAUFORMEN (STUTTGART). *1938. February. P. 82.*
House for a doctor with a large practice. Two waiting rooms, nurse's room, consulting room and laboratory.
Other houses by the same architect, H. Bartman, are illustrated.

MATERIALS

WERK (ZURICH). *1938. February. P. 33.*
Special issue on timber building, with many characteristically excellent Swiss examples of modern houses, chalets, etc., in wood.

NATIONAL BUILDER. *1938. February. P. 233.*
Developments in materials—Cork. Qualities and applications of the material discussed by C. C. Handisyde [*A.*].

EQUIPMENT

JOURNAL OF THE INSTITUTION OF HEATING AND VENTILATING ENGINEERS. *1938. January. P. 498.*
Kitchen installations for hospitals. Paper by T. H. B. Whiting.

TOWN PLANNING

TOWN PLANNING REVIEW. *1937. December. PP. 243 and 271.*
Park Planning—Part II, by L. H. Mattocks, including plans of open-air theatres.
The rebuilding of London after the Fire.—(b). The work of the City authorities, by T. F. Reddaway.

JOURNAL OF THE TOWN PLANNING INSTITUTE. *1938. January. P. 73.*
Planning and Productivity ; paper by Miss J. F. Adburgham [*L.*].

BUILDER. *1938. 4 and 11 February.*
An alternative to tenements. Articles on terrace housing, giving densities of 40-70 houses to the acre, by A. Trystan Edwards [*F.*].

ARKKITEHTI (HELSINGFORS). *1937. No. 12. P. 186.*
Critical article, by Marius of Schutten, architect, on the suburban developments about Helsingfors.

GENERAL

MODERNE BAUFORMEN (STUTTGART). *1938. February. P. 65.*
Planning and planting of gardens.—IV. Irregular-shaped plots. Continuation of series of articles.

Book Reviews

AMERICAN GEORGIAN ARCHITECTURE*

During the great economic depression the architects of the United States organised relief work in a manner somewhat similar to that adopted by the R.I.B.A. in Britain. The first published result of the American work was a fine volume, issued in 1933, containing photographs and measured drawings of forty-four of the great Georgian houses of America, introduced by a foreword tracing the development of Georgian architecture in the U.S.A. from its English originals. The feast which this volume presented might have seemed, to a person not aware of the riches of American Georgian architecture, to have exhausted the supply, but now the Relief Committee have published in Volume II drawings and photographs of thirty-three more houses.

In Volume I the houses were buildings which could properly be described as " great " in all senses, they were " great " artistically, comparatively " great " in size, and mostly " great " in their historical importance ; among them were, for instance, the White House, Mount Vernon, Oatlands, the Matthias Hammond House, and many more as well known to many English students as the corresponding houses on this side. In Volume II, the editors have, not surprisingly, been unable to maintain quite this level, and the introduction points out that here the word " great " has been used in the sense of excellence of design rather than as an indication of the size of the houses. But the houses are certainly every one of them fully worthy of the scholarly attention of this benevolent committee.

The introduction has been written by Mr. Fiske Kimball, who discusses the Regional types of Early American architecture. The cycle of American Georgian building followed the corresponding phases in England, generally a bit behind metropolitan English work, but not, Mr. Kimball suggests, later than the work in the English provinces. The Baroque-Palladian battle was fought out in the U.S.A. much as it was here. The Wrennish Westover on the James represents one, the Apthorpe House in New York the other. At the same time, however, that these major changes were being effected there were the even more interesting changes due to purely local influences. These are more evident in the smaller houses illustrated in Volume II than in the " great " houses of Volume I. It is not in the finer houses, says Mr. Fiske Kimball, that we are to see the especially characteristic American note. It is rather in the isolated houses where workmen, instead of piquing themselves on a perfect following of the latest London fashion, built forward unconsciously in new directions. Many of these local variations are immediately evident to us as the characteristic variants from English orthodoxy ; the use of timber generally in clapboards and shingles, New England lean-to roofs, gambrel roofs, pediments at the ends of houses, and so on. Mr. Fiske Kimball refers also to one characteristic less easily observed ; the use of " L " plans derived from the colonists' conservative loyalty to the narrow houses which they built in the early years.

There are other local details which Mr. Kimball notes, such as the " Connecticut Valley doorway ", which drifted down the valley from the Hancock House at Boston. Any number of similar examples are quoted as fascinating to the student of social and geographical influences on architecture as they are to the student whose main interest is an objective concern for form.

Mr. Kimball says that these studies have barely been started, but if that is so his most readable introduction should give an impetus to further studies by other students, and in any case excites the hope that he will himself be able to continue them.

Among the other points which he succeeds in making are that the attenuated forms of much colonial architecture are not derived primarily from the use of wood, but are the fruit of purely formal developments of style.

This is confirmed by the extent to which this attenuation is evident in buildings such as the John Brown House, Providence, where the " high shouldered " effect seems to have no relationship with wood form ; indeed the timber doorway here is " stocky " rather than attenuated. Mr. Fiske Kimball also restates the fact that the influence of the furniture books was not nearly as important as the influence of the builders' books on the course of detail design.

It is perhaps surprising that with so many things in the design of these houses inherited from the earliest colonial days there should be so little evidence of what might be described as the sturdiness of primitive building. These are less the houses of people whose colonising work was scarcely begun than of a settled, urbane and delicately cultured community. In South Africa, in conditions that need not have been so vastly different, the effects of the rudeness of colonial building were not so quickly submerged.

Barely enough space has been left in this review to refer to the substance of the book—its 230 pages of photographs and drawings. There are more measured drawings of details in this volume than in the previous volume, and they are, on the whole, clearer than the few there were before. The style of the draughtsmanship of the elevations is pleasantly mannered and pictorial. The inessentials such as mock eighteenth-century groups of people are sometimes irritating and presumably put in to catch the hearts of the sentimental laymen ; nevertheless, they seldom conflict with legibility.

**Great Georgian Houses of America. Published for the Benefit of the Architects' Emergency Committee.* La. 4to, 256 pp. New York. 1937. By Subscription.

Accessions to the Library

1937-1938—VI

Lists of all books, pamphlets, drawings and photographs presented to, or purchased by, the Library are published periodically. It is suggested that members who wish to be in close touch with the development of the Library should make a point of retaining these lists for reference.

Any notes which appear in the lists are published without prejudice to a further and more detailed criticism.

Books presented by publisher for review marked R.

Books purchased marked P.

* *Books of which there is at least one copy in the Loan Library.*

ARCHITECTURE

Education

Schools

——. 1936. (Truman & Knightley, publ.) [1936.] R.

Theory

Ruskin (John)

The Seven lamps of architecture.

[1st ed.] 10½″. Lond. 1849.
Presented by Mr. E. J. May [Ret. F.].

History

Britton (John)

The Architectural antiquities of Great Britain.

5 vols. 4o. Lond. 1807-27.

Vol. v is a reprint or later ed. *Title*, A Chronological history . . .

Vol. v, 1826, *with title* The Architectural antiquities . . ., and independent volume, 1826, *with title* A Chronological history . . ., already in Library.

Cicognara (L.), Diedo (A.), *and* Selva (G. A.)

Le Fabbriche e i monumenti cospicui di Venezia. Edizione con . . . aggiunte di Francesco Zanotto.—Edifices et monuments remarquables de Venise. (*Text in Italian and French.*)

2 vols. fo. Venice. 1858.

2nd ed. 1838-40 already in Library.

Junghändel (M.) *and* Gurlitt (Cornelius)

* Die Baukunst Spaniens.

2 vols. fo. Dresden. [1898.]
To Loan Library.

—All presented by the Worshipful Company of Carpenters.

Architectural Review

* [Special number :] The Russian scene. (May.)
13¾″. Lond. 1932. 2s. 6d.
To Loan Library.
Presented by the High Commissioner for India.

Zürich : Eidgenössische Technische Hochschule

[Volume commemorating centenary of Schweizerische Ingenieur- und Architekten Verein.] (No title-page. E. T. H., *cover title.* Abteilung 1, Architekten, *first page title.*)

10¾″ × 10¼″. [Zürich. 193—.] R.

New York : Museum of Modern Art

Annual report . . . Programme for 1938. (Bulletin. Jan.)
9¼″. New York. 1938. R.

Professional Practice

London County Council

By-laws for the construction and conversion of buildings and furnace chimney shafts, &c. (No. 3319.)

13″. Lond. : P. S. King. 1937. 1s. 6d. R.

Building Types

(Civil)

Andrews (C. B.)

The Railway age.

9¾″. xiv + 145 pp. + pls. Lond. : Country Life. 1937.
12s. 6d. R.

Architects' Journal

*[Special number :] Factories. (2 Dec.)
12½″. Lond. 1937. 6d. R. *To Loan Library.*

Architectural Design and Construction

* [Special number :] Hospitals. (July.)
13″. Lond. 1937. 1s. R. *To Loan Library.*

Architectural Review

* [Special number :] Shakespeare Memorial Theatre. (June.)
13¾″. Lond. 1932. 2s. 6d.
To Loan Library.
Presented by the High Commissioner for India.

Architectural Design and Construction

* [Special number.] Cinemas and theatres. (Mar.)
13″. Lond. 1937. 1s. R (2). *To Loan Library.*

Building, *journal*

* [Special number :] Cinema reference number. (Oct.)
12″. Lond. 1937. 1s. R. *To Loan Library.*

(Religious)

Architectural Design and Construction

* [Special number :] Churches and religious buildings. (Feb.)
13″. Lond. 1937. 1s. P. *for Loan Library.*

Britton (John)

Cathedral antiquities.

[Reprint.] 6 vols. 4o. Lond. 1836.
Bound in different order to set in Library.
Presented by the Worshipful Company of Carpenters.

Alexander (S. A.)

The Cross and the dome [of St. Paul's Cathedral].—Sir Christopher Wren. From the Bicentenary Memorial Volume . . . of the R— I of B— A—.

pam. 11″. Birmingham : City of B— School of Printing. 1935.
Presented by Mr. Benjamin Walker, F.S.A. [F.].

(Educational)

Architectural Review

* [Special number :] Broadcasting House. (Aug.)
13¾″. Lond. 1932. 2s. 6d. P. *for Loan Library.*

* [Special number :] The R.I.B.A. building. (Dec.)
13¾″. Lond. 1934. 2s. 6d.
To Loan Library.
Presented by the High Commissioner for India.

(Domestic)

Architectural Design and Construction

* [Special number :] Houses and domestic buildings. (Aug.)
13″. Lond. 1937. 1s. R. *To Loan Library.*

* [Special number :] Flats and housing. (Apl.)
13″. Lond. 1937. 1s. R. *To Loan Library.*

Haupt (A.) *and others*

*Palast-architektur von Ober-Italien und Toscana, &c. .

Genua. By R. Reinhardt. fo. Berlin. 1880.
Toscana. [I.] By J. C. Raschdorff. ,, ,, 1888.
Unbound set, incomplete.
To Loan Library.
Presented by the Worshipful Company of Carpenters.

GOWER (*Lord* RONALD SUTHERLAND)
The Tower of London.
2 vols. 9″. Lond. 1901-02.

CHANDLERY (P. J.)
The Tower to Tyburn. A London pilgrimage. [Catholic associations.]
7¾″. Lond. 1924.
—Both presented by Mr. J. E. Yerbury [F.].

INTERIORS

HIRTH (GEORG)
Das Deutsche zimmer, *&c.*
3rd ed. 11½″. Munich & Leipzig. 1886.
Presented by Mr. E. J. May [Ret. F.].

ALLIED ARTS AND ARCHÆOLOGY

SCHOOLING (J. H.)
The Handwriting of John Ruskin. (*From* Strand Magazine.)
extract. [1895.]

CHURCH (A. H.) *and others*
Some minor arts as practised in England. [Impressed horn ; bookbinding ; pottery ; fruit trenchers ; wood effigies ; enamels.]
13½″. Lond. 1894.
—Both presented by Mr. E. J. May [F.].

QUENNELL (MARGARET *and* C. H. B.)
*A History of everyday things in England.
Vol. ii. 1500-1799. 3rd ed. 8¾″. Lond. : Batsford. 1937. 8s. 6d. R.
To Loan Library.

EXHIBITION OF CHINESE ART FOR CHINESE MEDICAL AID, *London*, 1938
Catalogue.—Exhibition . . . At 9 Conduit Street. January.
pam. 7″. Lond. 1938. 6d. *Presented.*

HARLING (ROBERT), *editor*
The London miscellany. A nineteenth century scrapbook. [Quotations from many sources.]
9¾″. 256 pp. Lond. : Heinemann. 1937. 8s. 6d. R.

ARCHITECTURAL REVIEW
* [Special number :] The Swedish exhibition [1931]. (Mar.)
13¾″. Lond. 1931. 2s. 6d. P. *for Loan Library.*

WILLIAMSON (E.)
Les Meubles d'art du mobilier national.
2 vols. fo. Paris. [18—.]
Presented by the Worshipful Company of Carpenters.

SOCIÉTÉ ARCHÉOLOGIQUE, HISTORIQUE ET ARTISTIQUE DE MARLY-LE-ROI
Le Vieux Marly. Bulletin, *&c.*
Tome 1, Nos. 1-6. 10″. [Marly-le-Roi. 193—.]
Presented by Mr. H. M. Fletcher [F.].

BUILDING SCIENCE

NATIONAL PHYSICAL LABORATORY
Abstracts of papers published . . . 1936.
9¾″. Lond. : H.M.S.O. 1937. 1s. R.

MATERIALS

ARCHITECTURAL REVIEW
* [Special number :] Brick. (May.)
13¾″. Lond. 1936. 2s. 6d.
To Loan Library.
Presented by the High Commissioner for India.

CONSTRUCTION

ARCHITECTURAL REVIEW
* [Special number :] Steel and concrete. (Nov.)
13¾″. Lond. 1932. 2s. 6d.
To Loan Library.
Presented by the High Commissioner for India.

CEMENT AND CONCRETE ASSOCIATION
[Application of concrete. Including : Churches ; roads ; plunge-pools ; swimming pools.]
Concrete in architecture. [Various numbers.]
Concrete memoranda. [,, ,,]
Specification . . . [,, ,,]
various pams. 8½″-11¼″. Lond. [1936 ——.] R.
In progress.
Superseding 2 entries in published catalogue and 4 entries subsequently.
Some in Loan Library, catalogued separately.

LONDON COUNTY COUNCIL
Welding—applications for modifications or waivers. Regulations . . . 1937, *&c.* (No. 3318.)
13″. Lond. : P. S. King. 1937. 3d. R.
By-laws . . . for the use of timber in the construction and conversion of buildings. (No. 3317.)
13″. Lond. : P.S. King. 1937. 3d. R.

SANITARY SCIENCE, EQUIPMENT

JOINT COMMITTEE OF ARCHITECTS AND ELECTRIC LAMP MANUFACTURERS' ASSOCIATION
Lighting conferences for architects. (2 Feb.)— Utility illumination. *&c.* By W. J. Jones and G. P. Crowden.
3 dupl. typescripts. 13″. 1938.

SURVEYING

CHARTERED SURVEYORS' INSTITUTION
Journal.—Index . . . vols. xii—xvi (1932—1937). Also Index to Queries and replies, vols. xii—xvi (1932—1937).
1937. R.

TOWN AND COUNTRY PLANNING

DAVIDGE (W. R.)
Bedfordshire regional planning report. (Bedfordshire Advisory Joint Town Planning Committee.)
12″ × 9″. 209 pp. incl. pls. n.p. 1937. R.

HERITAGE (G. H. R.)
The Bastides [fortified planned towns] of Guienne. (Thesis for Final Examination, Dec.)
typescript, *Phots. of D.*, and *Phots.* [1937.]
Presented by the Author.

BIBLIOGRAPHY

NATIONAL BOOK COUNCIL
A Catalogue of books about books in the . . . library.
3rd ed. [of Books about books]. 8½″. Lond. 1938. R.

THE FOLLOWING DUPLICATES HAVE BEEN PRESENTED BY THE CARPENTERS COMPANY AND HAVE BEEN DISPOSED OF AS STATED :—

Also 1 duplicate work added to Reference Library.
,, 2 ,, *works* ,, ,, *store.*
,, 2 ,, ,, *replacing copies for Loan Library.*
,, 2 ,, ,, ,, ,, ,, *store.*

DRAWINGS

[SCOTT (*Sir* GILBERT)]
[India Office, London : variant design.] 8 elevs., one persp.
9 sheets on 7. *Pencil D., some wash, and Water-colour.*
[c.185—/7—.]
Presented by Mr. Thomas Braddock [L.].

GRANT (J. LINDSAY), *draughtsman*
[An Etruscan temple : conjectural restoration.]
2 sheets. *Coloured D.* n.d.
Presented by the Draughtsman [A.].

FLORENCE
Palazzo Pitti, façade, fountain ; Pal. Strozzi, façade ; Ponte Sta. Trinità. Thian, del.
4 sheets. *Ink and wash D.* n.d.
Formerly the property of Sir Charles Barry, R.A.
Presented by the Executors of Sir John Wolfe Barry.

ORDNANCE SURVEY DEPARTMENT
6″=1 mile (1) ; 25″=1 mile (21) ; 5′=1 mile (12) ; 4′ 3″=1 mile (1). London, Middlesex, Herts, Essex, Kent, Surrey, Yorks.
35 sheets. *Maps.* v.d.
Presented by Mr. J. E. Yerbury [F.].

Correspondence

EMPLOYMENT OF STONE CARVERS

51 Gildredge Road,
Eastbourne
31.1.38

To the Editor, JOURNAL R.I.B.A.

DEAR SIR,—The R.I.B.A. JOURNAL of the 24th inst. publishes a letter from the Secretary of the National Amalgamated Furnishing Trades Association and commends its plea.

With this I am in complete sympathy and agreement. The lack of carving in present-day buildings, not only in stone but in wood carving, is regrettable, and I believe the consequent unemployment is deplorable, and, moreover, will lead to the entire loss of these arts and superb craftsmanship, not to be learned but a gift of inheritance.

Only recently, and having a direct bearing upon some church work of considerable importance in this town upon which I am professionally engaged, these questions have very forcibly been brought to my notice by the necessary association of a wood carver possessing the inherited gift I mention and admire.

I feel I thought this some years ago, seeing as one must and did the evidence constantly around us, and it was mainly due to this fact and reasoning that I edited and published a monthly illustrated magazine or journal, *Country and Town*, in order to instil the bringing together of the arts of architecture, sculpture and carving of stone and wood. In these publications there were delightful groups of sculpture and carving executed by the young and rising generation, having ever the object in view and to the forefront, the bringing together of the three arts so closely allied and necessary to produce a satisfactory whole.

In these days of plain, unadorned but practical buildings there seems to be small scope (and little time) to consider the employment of stone and wood carvers and sculptors, and it is consequently, I fear, looked upon as an unnecessary and expensive adornment, rather relying upon proportion, solids and voids for architectural relief and results, and one cannot but feel drawn in this direction of utility and directness.

I am,
Yours faithfully,
CECIL A. SHARP [*F.*]

THE LEGAL GRUMBLE POINT OF INADEQUATE DAYLIGHT

9 Gray's Inn Square,
London, W.C.1
3.2.38

To the Editor, JOURNAL R.I.B.A.

DEAR SIR,—The whole of the long letter on the above in the 24 January issue of the JOURNAL, p. 309, is based upon the erroneous assumption that the reactions of the human eye to variations in the intensity of natural and of artificial illumination are identical—whereas they are not even similar. The facts are precisely as stated in my letter in the JOURNAL of 20 December.

Yours faithfully,
PERCY J. WALDRAM [*L.*]

This correspondence is now closed.—ED.]

WREN IN DUBLIN

82 Merrion Square,
Dublin
2.2.38

To the Editor, JOURNAL R.I.B.A.

DEAR SIR,—Recently *The Times* published an article repeating the oft-contradicted fiction of Wren being the architect of the Royal Hospital, Dublin. This was repeated in the Dublin papers. I wrote pointing out how devoid of truth this was. I have not seen my contradiction in *The Times*, but the *Irish Daily Independent* published it. I enclose copy. It was corroborated next day in a letter from Mr. J. J. Buckley, M.R.I.A., also enclosed. The subject is of sufficient historic importance to justify reference in the JOURNAL, I think.

Yours faithfully,
R. M. BUTLER [*F.*]

[The cuttings referred to in Professor Butler's letter recount the large amount of contemporary and early evidence that the Royal Hospital, Kilmainham, was designed by Sir William Robinson, Surveyor-General to the Government of Ireland. The mistake about Wren, suggests Professor Butler, evidently arose through his having occupied the same official position in England as Robinson in Ireland, so that the *Order* of 1679-80 to " His Majesty's Surveyor of his buildings that he do with all convenient speed view the lands of Kilmainham " and prepare a draught " of a building to be erected . . . etc." has been taken as applying to Wren and not, as it should of course do, to Robinson. Readers are referred to a full discussion of this matter in a letter from Professor Butler, R.I.B.A. JOURNAL, 8 August 1931, Vol. xxxviii, p. 700.—*Editor.*]

HIGHFALUTIN

Bloomsbury (of course)
8.2.38

To the Editor, JOURNAL R.I.B.A.

DEAR SIR,—May I beg Mr. L. Sylvester Sullivan to take the straw out of his hair, mop his desperately low brow, adjust his tie, sit down quietly, and re-read the introduction to the MARS Catalogue? It is quite intelligible—really it is. I ought to know, because I am.

Yours faithfully,
THE AUTHOR OF THE INTRODUCTION TO THE MARS CATALOGUE [*A.*]

P.S.—Basic English next time—or Runyonese.

24 Willow Road,
London, N.W.3
14.2.38

To the Editor, JOURNAL R.I.B.A.

DEAR SIR,—Thank God for Mr. L. Sylvester Sullivan's letter in the February number.

It is a bit of fresh, clean British air, and a good antidote to the poor simpletons who are being sold a pup by the influx from the Continent (not to mention some other parts of Mother Earth) of nonsense wrapped up in " highfalutinism " to bamboozle the poor old long-suffering B.P.

Most of this " throw-out " stuff from abroad is like their anti-Christ politics . . .

I leave you, sir, to apply the appropriate adjective.

Yours faithfully,
E. FRAZER TOMLINS [*F.*]

SOCIAL COMMITTEE PARTY

9.2.38

To the Editor, JOURNAL R.I.B.A.

DEAR SIR,—We should like to express sincere thanks for the extremely pleasant time enjoyed by our partners and ourselves at the party on Monday last.

Not the least of the pleasures was that of dancing on the perfect floor of the hall, wherein we have memories of spending some less carefree hours, when the floor was hidden beneath rolls of matting.

The evening also provided an excellent opportunity of renewing acquaintanceships with colleagues from other offices, and was, in our opinion, a great success.

Yours very truly,

A. F. RUSSELL [*A.*]
F. C. MÉNAGE [*Student*]
K. A. SPARE [*A.*]
C. H. WEED [*Student*]

Notes

ARCHITECTS FOR THE NEW YORK WORLD'S FAIR, 1939

The Department of Overseas Trade announces that Messrs. Stanley Hall and Easton & Robertson have been appointed architects for United Kingdom Government participation in the New York World's Fair of 1939.

FOREST PRODUCTS RESEARCH EXHIBITION

An exhibition dealing with the work of the Forest Products Research Laboratory is being held at the College of Technology, Manchester, in March of this year. Arrangements for the exhibition are in the hands of the North-Western Educational Association for the Building Industry, and particulars may be obtained from the Honorary Secretary, D. A. G. Reid, College of Technology, Manchester.

The exhibition will be opened by the Lord Mayor of Manchester at 7 p.m. on Monday, 28 March, and will remain open until Saturday, 2 April.

A number of meetings will be held in connection with the exhibition at which papers will be read dealing with various problems connected with the use of timber. Further details of the exhibition arrangements will be published later.

INTERNATIONAL HOUSING AND TOWN PLANNING CONGRESS

The next congress of the International Housing and Town Planning Federation will take place in Mexico City from 13 August to 20 August this year at the invitation of the Mexican Government and the authorities of Mexico City. The congress will be followed by a six- or seven-day tour to study developments in Mexico. The President for the year is Mr. G. L. Pepler [*Hon.A.*]. The subjects will be: (1) Underground planning—subsoils, underground public services of all sorts, foundations and air raid precautions buildings. (2) Tropical and sub-tropical housing in all its aspects. (3) Planning recreation and the use of leisure. Reports will also be submitted on Town Planning Education and City Administration. The provisional return fares from Southampton via New York are £125 5s. (cabin) and £103 10s. (tourist).

Those who hope to attend are asked to notify the General Secretary of the I.H. & T.P.F. as soon as possible at their *new address*, 25 Bedford Row, London, W.C.1.

THE SPECIAL FINAL EXAMINATION

The R.I.B.A. Special Final Examination was held in London and Edinburgh from 8 to 14 December 1937.

Of the 59 candidates examined 16 passed (3 of whom sat for and passed in Part 1 only) and 43 were relegated.

The successful candidates are as follows :—

Bardell, Frank Stanley.
Bidwell, George Bernard Hopson.
Bond, Cedric Meyer.
Cox, Walter Guy.
Cresswell, Albert Edward.
Fowler, John Stewart.
Learner, John Francis (*Part 1 only*).
Lobb, Howard Leslie Vicars (*Part 1 only*).
McGraw, Andrew.
Macrae, Alastair.
Mitchell, George Eric.
Moss, John.
Pate, David McLean.
Pester, George Samuel (*Part 1 only*).
Seale, Archibald Frank Dallyn.
Thomson, Charles Robert.

MR ERNEST GUNSON

Mr. Ernest Gunson, F.S.I. [*F.*], has been elected chairman of the Lancashire and Cheshire branch of the Chartered Surveyors' Institution for this session.

R.I.B.A. FINAL AND SPECIAL FINAL EXAMINATIONS

The R.I.B.A. Examination Board in India have arranged to hold the R.I.B.A. Final and Special Final Examinations in Bombay from 22 April to 30 April 1938. The last day for receiving applications, which should be sent to the Hon. Secretary of the R.I.B.A. Examination Board in India, "Gustad Chambers," Sir Pherozeshaw Mehta Road, Fort, Bombay, is 22 March.

OBITUARIES

A. E. MUNBY [*F.*]

We regret that the photograph of Mr. A. E. Munby, which appeared at the head of his obituary in the last number of the JOURNAL, was not of him. The above photograph is of Mr. Munby.

CHARLES HEATHCOTE [*F.*]

We have received the following memoir of Mr. Charles Heathcote [*F.*], who was born in 1850 and died on 18 January this year :—

. . . No formal record of Charles Heathcote's career or description of his buildings can give a clear idea of the rare combination of abilities which brought him to what might be said to be a fairly prominent position in the profession. He had no literary or scholastic attainments : he was no great lecturer : he never pretended to be a leader amongst architects in the matter of design or decoration : he did not make any extensive tours with a view to examining the architecture of other countries, although at the same time one of his greatest pleasures in travelling, and he did a lot of travelling, was the architecture and scenic beauties that he encountered.

Where he did shine, and whereby he probably increased his professional position in the heyday of his career in Manchester, was probably due to the following facts : he never promised anything that he knew by previous examination that he could not fulfil : if he gave an opinion to a client as to the financial result of a building scheme, it would be found on completion that his prophecy was always justified : in any matter that savoured of a dispute the builders in the Manchester district would leave their case in his hands, just as sure of justice in the settlement as if they were his clients. This was due to his inherent sense of justice, as well as his ability to see both sides of a question. No one could ever imagine him to be capable of acting against his principles, however strong the inducement. His knowledge of men, particularly in all connected with the building trade, was such that by a simple little conference in his own office in Manchester he more than once prevented what looked like being a nasty strike.

Another point that is worthy of notice is that he was one of the first architects to recognise not only the advantage to an architect, but almost the necessity for an architect, to be in a position to make his own structural details in his own office, not only for all steelwork, but later for all reinforced concrete work. In the 90's it was the exception and not the rule for steel details to be made in the architect's office, simply because architects were not trained in engineering matters. Neither was Mr. Heathcote particularly so trained, but he saw to it that those who served under him should have the knowledge which had not been his in this respect. In fact, two of his sons went through the Cambridge Engineering Schools, and one of them joined him as a partner in the early years of this century. It was not only considered by him to be a financial advantage to his clients to have the architect call for, say, steel tenders on the *architect's* drawings (and not on the contractor's drawings), but it also assisted the architect himself in his details for every other part of the building, and, of course, saved some time. Similarly, in certain works, as, for example, the larger factory buildings that have passed through this office, it was considered essential to have the quantity surveying department as part and parcel of the office.

Mr. Heathcote was very clever in freehand sketching, and even up to the year of his death he sketched his own Christmas cards. He was only nineteen years of age when he won the silver medal of the R.I.B.A. for ecclesiastical drawings. At that time he was serving his articles with Mr. Hanson in Bristol. At the age of 21 he was elected an Associate of the R.I.B.A. It was probably lack of funds that made him retire for a few years from the R.I.B.A. shortly following that time, but he returned later and was elected a Fellow in 1884. Most of his business career was spent in Manchester, where he erected many important buildings—banks, insurance offices, houses and factories—but probably none of these would stand the test in architectural design against modern fashion. As the years sped on, the firm seemed to specialise more in factory building than civic, and though he had more or less retired from business round about 1925, Mr. Heathcote returned to harness at the call of the Ford Motor Company to take part in the erection of the great factory at Dagenham, which called for engineering and organising ability in its greatest extent. The Ford offices in Regent Street proved that the architectural touch was not missing.

During the War many vast warehouses were erected in South Lancashire for the storage of war materials, foods, etc., and as building materials were not always easy to obtain special ingenuity had to be used in the design of these stores.

The practice is being continued under its present name (Charles Heathcote & Sons) by Mr. Ernest G. Heathcote, F.S.I. [*F.*], at its present address : 1 Iddesleigh House, Westminster.

H. R. GOODRHAM [*F.*]

Since the publication of the last number of the JOURNAL we have received notice that the late Mr. H. R. Goodrham's practice is to be carried on under the same name and at the same address, 6 King's Bench Walk, Temple, E.C.4, by Mr. Goodrham's son, Mr. S. C. Goodrham [*Student*] and Mr. W. A. Nash [*L.*].

ALLIED SOCIETIES' ACTIVITIES

This is the time of Allied Societies dinners, and there are two to report in this number of the JOURNAL.

Northern Architectural Association

The first, the dinner of the Northern Architectural Association, took place on 24 January, but a report of it was received just too late to be included in the last number. The guest of honour was Lord Eustace Percy, and the distinguished company included representatives of neighbouring architectural societies, local and other societies under the chairmanship of Mr. GEORGE H. GRAY [*F.*], President of the Association. The toast of the Municipal Authorities was proposed by the President, who referred to their great influence in the affairs of everybody from cradle to grave. The opportunities for architects to exercise their abilities rested more and more with local authorities and he appealed to them to make use of the architect's special services. The LORD MAYOR OF NEWCASTLE replied. He pleaded for the development of the cultural life of the city and for better school buildings. "None of us," said Lord EUSTACE PERCY, in opening his speech, "has ever heard a finer expression of the artistic ideals of the man in the street than we have heard from the Lord Mayor." Lord Eustace proposed the toast of the R.I.B.A. If we were to take advantage of present opportunities, what we wanted, he suggested, was not poetic flights and great figures of imagination but a good prose style, and this he felt was now developing in architecture. He also put in a special plea for landscape planning. No building could be permanently beautiful if its surroundings were poor.

Mr. G. W. ATKINSON [*F.*] replied to Lord Eustace's toast. The Guests was proposed by Mr. S. W. MILBURN [*F.*], Vice-President of the Northern A.A., and responded to by Col. K. C. APPLEYARD.

Hampshire and Isle of Wight Architectural Association

The annual dinners of the Hampshire and Isle of Wight A.A. have a great reputation not only for the dinners themselves but also for the dances which follow. This year's dinner was the biggest in history and in every way one of the most successful. The outstanding event was the presentation of a silver cigarette box and a signed address to Mr. A. L. Roberts, President of the Society and for very many years its honorary secretary, as a tribute to his work for it, and of a cheque to Mrs. A. L. Roberts. Among those present were the President of the R.I.B.A. and Sir Ian MacAlister, and local people of importance including the Bishop of Winchester, and Viscount and Viscountess Lymington.

The toast of the Local Authorities, who were represented by many Mayors and Mayoresses from throughout the county, was proposed by Mr. ROBERTS, who said that it was the first time in the Association's history that a local government officer had been President. He referred to the long standing and happy relationship that existed between the profession and the authorities in the county, and said that he looked forward to the time when everyone would recognise that architectural work should be done by qualified architects. The MAYOR OF SOUTHAMPTON replied.

The BISHOP OF WINCHESTER proposed the R.I.B.A. and its Allied Societies in a delightful, humorous speech. He admired modern architecture and suggested that the people who thought it ugly were the same as those who 20 years ago complained that architecture was merely imitative.

Mr. GODHART-RENDEL replied. The R.I.B.A. was trustee of the nation's architectural wealth actual and potential. Its voice should often be raised in defence of ancient building but, far more important, it should continuously and loudly insist upon its duty to civilisation to produce the best architecture now.

He referred at some length to the Registration Bill and suggested that the present state of things could be defended by no one. Mr. INGALTON SANDERS [*F.*] proposed the toast of the Building Trades, and Mr. SMALLBONES, President of the Southern Counties F.B.T.E., replied. Mr. LOVETT GILL [*F.*] proposed the Guests, and Mr. SYDNEY TATCHELL [*F.*] replied.

The general organisation of this successful evening was in the hands of Mr. J. G. BIRKETT [*L.*], Hon. Secretary of the Association.

PAPERS AND MEETINGS

Among several meetings of which we have received reports are the following. The **South Wales Institute of Architects** had a successful paper from Professor W. G. Holford [*A.*] on 3 February on Trading Estates. He deplored the manner in which the British coal industry had allowed the land in the neighbourhood of the mines to be defaced, and contrasted this with the care shown in, for instance, the Ruhr to utilise slag and waste products usefully. Derelict factory areas were among the worst obstructions to the development of new factories in a depressed area. He described his work as architect of the Team Valley Trading Estate near Newcastle. Eighty factories had been let already and about 40 occupied. In ten years about 20,000 workers would be employed.

On 1 February Mr. C. B. Parkes [*L.*] read a paper to the **Notts, Derby and Lincoln Architectural Society** on Housing, Town Planning and Architecture in Leningrad and Moscow, in which he described his first-hand impressions. He described the enormous amount of lee-way that had to be made up in, for example, standards of accommodation, but spoke of their ambitious planning schemes and said that there was every evidence that they would be carried out.

He described the state of the profession. All architects are employed by the State, there is the fullest inter-departmental co-operation. The men are keen and well-informed about architecture elsewhere, all are school trained and full of a sense of responsibility. He spoke critically of much contemporary Russian work but the faults, he suggested, were more due to lack of workmen than to architectural failings. Russians loved spectacular and speedy building and their work suffered as a result. Unless these factors were overcome it seemed likely that the new Moscow would not reach the ideal its creators hoped. The architects were hopeful and cultured and it was more than likely that they would succeed in doing their gigantic task creditably. The lecture was illustrated by many slides.

At the sixth meeting of the **Birmingham and Five Counties A.A.** on Friday, 14 January, Mr. T. P. Bennett [*F.*] read a paper entitled "The Responsibilities of Architects in Spending the Wealth of the Nation."

Mr. Bennett began by remarking that, of the total sum of more than £100,000,000 spent in the course of one year in this country on building, architects were responsible for the spending of the greater part. For this expenditure the people who provided the money (the client, the building owner, the Government, call them what one would) were entitled to receive buildings as nearly perfect for the purpose for which they were required as expert knowledge could make them; and the architect, if he is to occupy the place in public esteem which is rightfully his, must have this expert knowledge and be ready to place it unreservedly at the disposal of his employers. The duty of the architect therefore was to see that the work entrusted to him was brought to a successful conclusion at the agreed cost, and that it gave pleasure to the people for whom it was designed.

Briefly, Mr. Bennett's paper was a plea to architects to make themselves efficient, not only on the artistic side of their profession, but also on the practical side, the side which had to do with the control of sub-contractors and the testing of their work, the economic use of materials, and so forth.

On 21 January Mr. William Haywood [*F.*] read a paper on Birmingham *en fête*, in which he described the Coronation decorations, which, owing to the city's determination to have one comprehensive, co-ordinated scheme, had all been devised by him. He described the difficulties he met with and his solutions. A booklet describing and illustrating the decorations has been published and a copy has been placed in the R.I.B.A. library.

Membership Lists

APPLICATIONS FOR MEMBERSHIP
ELECTION : 7 FEBRUARY 1938

In accordance with the terms of Byelaws 10 and 11, the following candidates for membership were elected at the Council Meeting held on Monday, 7 February 1938.

AS FELLOWS (7)

FURNER : ARTHUR STANLEY [*A.* 1920], Johannesburg, South Africa.
HARKESS : WILLIAM [*A.* 1919], Pulborough, Sussex.
HOBBS : MAJOR ATHOL JOSEPH [*A.* 1927], Perth, Western Australia.
MILLER : JOSEPH CHARLES [*A.* 1925], Penang, Straits Settlements.
PAGE : THOMAS ALEXANDER [*A.* 1920], South Shields.
PIERCE : STEPHEN ROWLAND [*A.* 1929].
And the following Licentiate who is qualified under Section IV. Clause 4 (c) (ii) of the Supplemental Charter of 1925 :—
SHAW : JOSEPH EDGAR, Leeds.

AS ASSOCIATES (26)

BEROLD : PHILIP [Passed a qualifying Examination approved by the Institute of South African Architects], Johannesburg, South Africa.
BOYD : MISS MARY MARSHALL [Passed five years' course at the Architectural Association. Exempted from Final Examination], Westcliff-on-Sea, Essex.
CALLANDER : GEORGE WALKER [Special Final Examination], Palmerston North, New Zealand.
COVENEY : GERALD NORMAN [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Wirral, Cheshire.
DAVIES : JOHN WILLIAM LOVAT [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination]. Oswestry.
FLAVEL : GILBERT ROGER SIDNEY [Passed five years' course at the Architectural Association. Exempted from Final Examination]. Keston, Kent.
FORTESCUE : MISS JANET MARY [Passed five years' course at the Architectural Association. Exempted from Final Examination]
GIBSON : TREVOR RICHARD STEPHEN [Passed a qualifying Examination approved by the Royal Australian Institute of Architects]. Sydney, N.S.W.
GOODAIR : ALFRED GEORGE [Final].
GROSE : HERBERT JOHN [Passed five years' course at the Architectural Association. Exempted from Final Examination].
HANSTOCK : ARTHUR GILBERT, Dip.Arch.(Leeds) [Passed five years' course at the Leeds School of Architecture. Exempted from Final Examination], Scarborough, Yorks.
HEATON : JOHN [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], St. Helens, Lancs.
JENKINS : AUBREY HENRY HERBERT [Passed five years' joint course at the School of Architecture, Cambridge University and the Architectural Association. Exempted from Final Examination].
LE ROSSIGNOL : JOHN AUGUSTIN [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination].
LEWIS : GRAHAM EVERARD [Passed five years' course at the Architectural Association. Exempted from Final Examination]. Penarth, Glam.
MCKENZIE : MISS GWYNETH MARY [Passed five years' course at the Architectural Association. Exempted from Final Examination], Cardiff.
MARGO : HAROLD DAVID, B.Arch.(L'pool) [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Johannesburg, South Africa.
MIDDLETON : PHILIP ROY [Passed five years' course at the Leeds School of Architecture. Exempted from Final Examination]. Bournemouth.
PARKIN : JOHN BURNET, B.A. [Passed five years' course at the Department of Architecture, University of Toronto. Exempted from Final Examination], Toronto, Canada.
PATKI : JANARDAN GANESH, G.D.Arch. [Special Final Examination], Bombay, India.
PEAKE : BRIAN HADWEN [Passed five years' course at the Architectural Association. Exempted from Final Examination].
REUBEN : SOLOMON SIMON (Jnr.) [Final], Bombay, India.
TATHAM : HENRY A.A.Dip. [Passed five years' course at the Architectural Association. Exempted from Final Examination].
WADE : JOHN HOWARD [Passed five years' course at the Architectural Association. Exempted from Final Examination].
WILKINS : RALPH ROLAND, A.A.Dip.(Hons.) [Passed five years' course at the Architectural Association. Exempted from Final Examination], Belfast.
YOUNGSON : WILLIAM COUTTS, Dip.Arch.(Abdn.) [Passed five years' course at the School of Architecture, Robert Gordon's Colleges, Aberdeen. Exempted from Final Examination], Liverpool.

AS LICENTIATES (4)

BUHL : CHARLES EDWARD FREDERICK.
FELGATE : FREDERICK LEONARD.
FIELD : SIDNEY JOHN, Brighton.
LEVITT : FREDERICK CHARLES, Biggleswade.

APPLICATIONS FOR MEMBERSHIP
ELECTION : 7 MARCH 1938

In accordance with the terms of Byelaws 10 and 11, an election of candidates for membership will take place at the Council Meeting to be held on Monday, 7 March 1938. The names and addresses of the candidates, with the names of their proposers, found by the Council to be eligible and qualified in accordance with the Charter and Byelaws are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary R.I.B.A. not later than Thursday, 3 March 1938.

AS HON. ASSOCIATES (6)

BARRON : THOMAS, J.P., President of the Amalgamated Society of Woodworkers, 108 Cleveden Road, Glasgow, W.2. Proposed by the Council.
BARTON : JOSEPH EDWIN, M.A.Oxon, Headmaster, The Grammar School, Bristol. Proposed by the Council.
FORSDYKE : SIR JOHN, K.C.B., M.A., F.S.A., Director and Principal Librarian, The British Museum, W.C.1. Proposed by the Council.
QUENNELL : MRS. MARJORIE, 18 Mecklenburgh Square, W.C.1. Proposed by the Council.
SIMON : SIR ERNEST DARWIN, M.A., M.Inst.C.E., Broomcroft, Ford Lane, Didsbury, Manchester, 20. Proposed by the Council.
WHISTLER : REX JOHN, 20 Fitzroy Street, W.1. Proposed by the Council.

AS FELLOWS (7)

BANFIELD : ERNEST WILLIAM [*A.*1901], 28 Mortimer Street, Regent Street, W.1 ; 43 Brantwood Road, Herne Hill, S.E.24. Proposed by A. Edward Hughes, Julian Leathart and Septimus Warwick.
BOWER : STEPHEN ERNEST DYKES, M.A.Oxon, A.A.Diploma [*A.*1931], Quendon Court, Quendon, Essex. Proposed by Theodore Fyfe, F. C. Eden and John Murray Easton.
LEICESTER : OSBORNE HOWARD [*A.*1928], 6 Southampton Street, W.C.1 ; 10 Gloucester Terrace, Old Brompton Road, S.W.7. Proposed by Thomas S. Tait, Francis Lorne and T. P. Bennett.
MAUGER : PAUL VICTOR EDISON, M.T.P.I. [*A.*1922], 22 Buckingham Gate, S.W.1 ; 26 Pentley Park, Welwyn Garden City. Proposed by Sir Raymond Unwin, Clifford Holliday and Reginald Dann.
ROSS : WILLIAM, F.S.I. [*A.*1923], 189 Pitt Street, Glasgow, C.2 ; 40 Lennox Avenue, Scotstoun, Glasgow, W.4. Proposed by Eric A. Sutherland, James H. Gray and William J. Smith.

And the following Licentiate who has passed the qualifying Examination :—

HICK : ALLANSON, 4 Bond Street, Hull ; 82 Albany Street, Hull. Proposed by G. Dudley Harbron, Frederick J. Horth and Llewellyn Kitchen.

And the following Licentiate who is qualified under Section IV. Clause 4 (c) (ii) of the Supplemental Charter of 1925 :—

MARTEN : WILLIAM HENRY HERBERT, "Moorcot," Guiseley, Leeds. Proposed by T. Butler Wilson, G. W. Atkinson and G. H. Foggitt.

AS ASSOCIATES (11)

ALEXANDER : PHILIP MOORE [Passed five years joint course at the School of Architecture, Cambridge University and the School of Architecture, Victoria University, Manchester. Exempted from Final Examination], Sandon, Wellington Road, Timperley, Cheshire. Proposed by Sir Percy S. Worthington, Professor R. A. Cordingley and J. Hubert Worthington.

GAVIN : IAN SINCLAIR [Passed five years' course at the School of Architecture, Edinburgh College of Art. Exempted from Final Examination], 35 Mortonhall Road, Edinburgh. Proposed by James Macgregor, Leslie Grahame-Thomson and A. F. Balfour Paul.

GLOVER : JOHN HARDIE, Dip.Arch.Edin. [Passed five years' course at the School of Architecture, Edinburgh College of Art. Exempted from Final Examination], 64 South Trinity Road, Edinburgh. Proposed by W. J. Walker Todd, Leslie Grahame-Thomson and F. C. Mears.

JONES : ALAN PETER GARNOCK, Dip.Arch.(L'pool) [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], "Brentwood," Sandfield Park, Liverpool, 12. Proposed by Professor Lionel B. Budden, R. A. Landstein and J. Ernest Marshall.

JONES : ANTHONY WILSON [Passed five years' course at the School of Architecture, Victoria University, Manchester. Exempted from Final Examination], Plover Eye, Lower Plover, Knutsford, Cheshire. Proposed by Professor R. A. Cordingley, Sir Percy S. Worthington and Francis Jones.

JOSEPH : PETER LESLIE [Passed five years' course at the Birmingham School of Architecture. Exempted from Final Examination], 36 York Street, Marylebone, W.1. Proposed by George Drysdale, A. C. Bunch and G. A. Jellicoe.

LLOYD : KENNETH ALFRED [Passed five years' course at the Birmingham School of Architecture. Exempted from Final Examination], "Daintree," Suckling Green Lane, Oaken Staffs. Proposed by George Drysdale, John B. Surman and William T. Benslyn.

MORTON : KENNETH, B.A.(Arch.) [Passed five years' course at the Department of Architecture, University of Sheffield. Exempted from Final Examination], 50 Greystones Avenue, Sheffield, 11. Proposed by Stephen Welsh, H. B. Leighton and H. B. S. Gibbs.

PATE : DAVID MCLEAN [Special Final Examination], 18 Russell Road, West Kensington, W.14. Proposed by B. George, Charles Holden and Lionel G. Pearson.

TARBOLTON : NORMAN ERIC [Passed five years' joint course at the School of Architecture, Cambridge University and the Bartlett School of Architecture, University of London. Exempted from Final Examination], 10 Moorland Road, Edgbaston, Birmingham. Proposed by Professor A. E. Richardson, H. O. Corfiato and Matthew Dawson.

WALKER : ALAN WENDELL, B.Arch. [Passed five years' course at the School of Architecture, McGill University, Montreal. Exempted from Final Examination], 25 Brunswick Square, W.C.1. Proposed by Andrew Mather, W. B. Binnie and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

AS LICENTIATES (5)

BOSPIDNICK : RICHARD GEORGE, c/o A. L. Abbott, Esq., 6 Queen Anne's Gate, S.W.1 ; "Casita," 7 Station Crescent, Rayleigh, Essex. Proposed by A. L. Abbott, Guy Church and Niel Martin-Kaye.

GRAY : JAMES TAYLOR, W.8 Air Ministry, London ; 100 Palace Road, Tulse Hill, S.W.2. Proposed by T. Harold Hughes, Henry A. Porter and E. Cecil Davies.

JOEL : DUDLEY WATKIN, c/o Hugh Macintosh, Esq., 1 Imperial Buildings, Croydon ; 19 Norfolk Avenue, Sanderstead, Surrey. Proposed by Hugh Macintosh, and the President and Hon. Secretary of the South-Eastern Society of Architects under the provisions of Byelaw 3 (*a*).

PYMAN : NOEL, Lloyds Bank Chambers, Vicar Lane, Leeds ; The White House, Knaresborough. Proposed by John C. Procter, G. W. Atkinson and T. Butler Wilson.

STEVENS : ERIC GORDON, Messrs. Smee & Houchin, 22 Essex Street, Strand, W.C.2 ; "Greengates," 56 Luton Road, Harpenden, Herts. Proposed by H. Rogers Houchin, Percy C. Boddy and Herbert J. Axten.

Notices

THE PLACING OF CONTRACTS

The attention of members is drawn to the statement on page 402, in the Review of Practice, on the above subject.

THE SEVENTH GENERAL MEETING MONDAY, 7 MARCH 1938, AT 8 P.M.

The Seventh General Meeting of the Session 1937-1938 will be held at 8 p.m. on Monday, 7 March 1938, for the following purposes :—

To read the Minutes of the Sixth General Meeting held on Monday, 21 February 1938 ; formally to admit members attending for the first time since their election.

Mr. Edwin Gunn [*A.*] to read a paper on "Problems of a Rural Practice."

THE HEALTH, SPORT AND FITNESS EXHIBITION, WEDNESDAY, 2 MARCH, TO THURSDAY, 31 MARCH 1938

The Health, Sport and Fitness Exhibition will be opened at 3.30 p.m. on Wednesday, 2 March 1938, by the Rt. Hon. Lord Aberdare, Chairman of the National Fitness Council.

All members of the R.I.B.A. are cordially invited to attend the opening of the Exhibition (no cards will be necessary).

In conjunction with the Exhibition the following series of lectures has been arranged :—

Wednesday, 2 March, 5.0 p.m. "The Object of the Exhibition," by Mr. John Gloag [*Hon. A.*].

Wednesday, 9 March, 6.30 p.m. "Health and Welfare," by Dr. J. Graham Forbes, F.R.C.P.

Tuesday, 15 March, 6.30 p.m., "The Rights of Leisure," by Mr. A. J. A. Symons.

Wednesday, 23 March, 6.30 p.m. "Organising Sport," by Mr. W. W. Wakefield, M.P.

REVISION OF THE R.I.B.A. SCALE OF PROFESSIONAL CHARGES

In accordance with the terms of Bye-law 38 the Council published in the JOURNAL of 14 August 1937, for the comments and criticisms of members, a proposal to amend Clause 2 (e) of the Scale of Charges.

In consequence of suggestions received from members the matter was subsequently referred back to the Practice Standing

Committee for further consideration. The Practice Committee, having given the matter further consideration and having consulted the Institute Solicitor, recommended that Clause 2 (e) and (f) of the Scale be amended to read as follows :—

(e) *Partial Service.*

If the project or part of it be abandoned or deferred, or if the services of the Architect are dispensed with, the charges in respect of the abandoned or deferred project or services for which the Architect was employed are as follows :—

(i) For taking client's instructions and preparing preliminary sketch plans to illustrate possibilities of a site or cost of a scheme the charge is on *quantum meruit.*

(ii) For taking client's instructions, preparing sketch design sufficient to indicate the Architect's interpretation of the client's instructions (but not in detail adequate to enable quantities to be prepared) and making approximate estimate of cost, the charge is on *quantum meruit* and should not exceed one-sixth of the percentage stated in Clauses 2 (a) or 2 (b) (as the case may be) on the estimated cost of such works.

(iii) For taking client's instructions, preparing sketch design, making approximate estimate of cost by cubic measurement, or otherwise, and preparing drawings and particulars sufficient to enable quantities to be prepared by an independent quantity surveyor or a tender obtained, the charge is two-thirds of the percentage stated in Clauses 2 (a) or 2 (b) (as the case may be) on the estimated cost of such works.

(iv) For the purpose of this clause a project shall be deemed to have been abandoned or deferred if either (a) the client notifies the Architect to that effect, or (b) no contract has been entered into or order given for the works within six months of the completion by the Architect of the work described in the last preceding sub-clause.

(f) *Mode and Time of Payment.*

The Architect is entitled to payment in stages as follows :—

(i) For the services described in Clause 2 (e) (i) forthwith upon completion of such work.

(ii) For the services described in Clause 2 (e) (ii) forthwith upon the completion of such work.

(iii) For the services described in Clause 2 (e) (iii) forthwith upon signing of a contract, or the giving of an order, or the abandonment or deferring of the work, less any payments already received by him pursuant to the last two preceding sub-clauses.

(iv) For the remainder (if any) of the services payment shall be made by instalments from time to time as the work of supervision proceeds.

This recommendation was approved by the Council at their meeting on 7 February 1938, and the amendment of the Scale became effective as from that date.

BRITISH ARCHITECTS' CONFERENCE BRISTOL, 22-25 JUNE 1938

The Annual Conference of the Royal Institute of British Architects and of its Allied and Associated Societies will take place at Bristol from 22 to 25 June 1938.

The Wessex Society of Architects have in hand the preparation of a most attractive programme and particulars will be issued in due course.

ROYAL INCORPORATION OF ARCHITECTS IN SCOTLAND ANNUAL CONVENTION 1938

The Annual Convention of the Royal Incorporation of Architects in Scotland will take place at Inverness on Friday and Saturday 3 and 4 June 1938.

ASSOCIATES AND THE FELLOWSHIP

Associates who are eligible and desirous of transferring to the Fellowship are reminded that if they wish to take advantage of the election to take place on 9 May 1938 they should send the necessary nomination forms to the Secretary R.I.B.A. not later than Saturday, 12 March 1938.

LICENTIATES AND THE FELLOWSHIP

The attention of Licentiates is called to the provisions of Section IV, Clause 4 (*b*) and (*cii*), of the Supplemental Charter of 1925. Licentiates who are eligible and desirous of transferring to the Fellowship can obtain full particulars on application to the Secretary R.I.B.A., stating the clause under which they propose to apply for nomination.

Competitions

The Council and Competitions Committee wish to remind members and members of Allied Societies that it is their duty to refuse to take part in competitions unless the conditions are in conformity with the R.I.B.A. Regulations for the Conduct of Architectural Competitions and have been approved by the Institute.

While, in the case of small limited private competitions, modifications of the R.I.B.A. Regulations may be approved, it is the duty of members who are asked to take part in a limited competition to notify the Secretary of the R.I.B.A. immediately, submitting particulars of the competition. This requirement now forms part of the Code of Professional Practice in which it is ruled that a formal invitation to two or more architects to prepare designs in competition for the same project is deemed a limited competition.

ADWICK-LE-STREET : NEW COUNCIL OFFICES

The Urban District Council of Adwick-le-Street invite architects whose offices are situated in the West Riding of Yorkshire to submit in competition designs for new Council Offices.

Assessor : Mr. John C. Procter, M.C. [*F.*].

Premiums : £150, £40 and £30.

Last day for submitting designs : 30 August 1938.

Last day for questions : 23 April 1938.

Conditions of the competition may be obtained on application to Mr. C. R. Marshall, Clerk to the Adwick-le-Street Urban District Council, Bank Chambers, High Street, Doncaster. Deposit £1 1s.

CHESTER : EXTENSIONS TO CHESTER ROYAL INFIRMARY

The Council of the Chester Royal Infirmary invite architects of British nationality domiciled in the United Kingdom to submit in competition designs for new hospital buildings and alterations to existing buildings of the Royal Infirmary.

Assessor : Mr. Arthur J. Hope [*F.*]
Premiums : £300, £200 and £100.
Last day for submitting designs : 30 April 1938.
Last day for questions : 12 February 1938.
Conditions of the competition may be obtained on application to Mr. J. Rowse Mitchell, Secretary, The Chester Royal Infirmary, Chester. Deposit £1 1s.

DUNDEE : DUNCAN OF JORDANSTONE COLLEGE OF ART

The Governors of the Dundee Institute of Art and Technology invite architects of British nationality domiciled in the United Kingdom to submit in competition designs for the Duncan of Jordanstone College of Art proposed to be erected on a site in Perth Road, Dundee.

Assessor : Mr. Julian R. Leathart [*F.*].
Premiums : £500, £250 and £150.
Last day for submitting designs : 4 May 1938.
Last day for questions : 19 January 1938.
Conditions of the competition may be obtained on application to the Clerk and Treasurer, Dundee Institute of Art and Technology, Bell Street, Dundee, Angus. Deposit £1 1s.

REDCAR : THE DEVELOPMENT OF THE "STRAY"

The Corporation of Redcar, Yorks, invite architects to submit in competition designs for the layout of, and buildings to be erected on, the "Stray" at the front of Zetland Park, Redcar.

Assessor : Professor Patrick Abercrombie [*V.-P.R.I.B.A.*]
Premiums : £250, £100, and £50.
The last day for submitting designs has been extended to 31 March 1938
Last day for questions : 31 December 1937.
Conditions of the competition may be obtained on application to the Town Clerk, Municipal Buildings, Redcar, Yorks. Deposit £1 1s.

ROYAL NATIONAL EISTEDDFOD OF WALES, CARDIFF, 1938 : ARCHITECTURAL COMPETITIONS

The Royal National Eisteddfod of Wales are promoting the following two competitions :

(1) For a design for a scheme comprising Physical Culture Centre and Baths. Premiums : £60, £30 and £20.
(2) For a design for a Group of Twelve Dwellings for Aged People. Premiums : £30 and £20.

The Assessor for the competitions is Mr. Percy E. Thomas, O.B.E., Hon. LL.D., Past-President R.I.B.A.
Closing date : 11 June 1938.
Particulars of the competitions may be obtained on application to The General Secretary, Royal National Eisteddfod of Wales, 11 Park Place, Cardiff.

ST. GEORGE'S HOSPITAL : RECONSTRUCTION

The President, Vice-President, Treasurer and Governors of St. George's Hospital invite architects practising in the United Kingdom and Northern Ireland to submit in competition designs for the reconstruction of St. George's Hospital, Hyde Park Corner.

Assessors : Dr. H. V. Lanchester [*F.*].
Mr. T. A. Lodge [*F.*].
Premiums : £500, £300 and £200.
Last day for submitting designs : 30 August 1938.
Last day for questions : 1 March 1938.
Conditions of the competition can now be obtained on application to The House Governor, St. George's Hospital, Hyde Park Corner, London, S.W.1. Deposit £2 2s.

WOOD GREEN : COUNCIL OFFICES AND PETTY SESSIONAL COURTS

The Wood Green Town Council invite architects of British nationality to submit in competition designs for new Council Offices and Petty Sessional Courts.

Assessors : Mr. C. H. James, A.R.A. [*F.*].
Mr. S. Rowland Pierce [*A.*].
Premiums : £300, £200 and £100.
Last day for submitting designs : 26 April 1938.
Last day for questions : 2 February 1938.

Conditions of the competition may be obtained on application to Mr. H. Chubb, Town Clerk, Town Hall, Wood Green, London, N.22. Deposit £2 2s.

YEOVIL : NEW TOWN HALL AND MUNICIPAL BUILDINGS

The Yeovil Borough Council invite architects to submit in competition designs for new town hall, municipal offices, public library and museum.

Assessor : Mr. C. Cowles-Voysey [*F.*].
Premiums : £200, £150, £100 and £50.
Last day for submitting designs : 30 June 1938.
Last day for questions : 15 March 1938.
Conditions of the competition may be obtained on application to Mr. H. C. C. Batten, Town Clerk, Municipal Offices, King George Street, Yeovil. Deposit £1 1s.

COMPETITION FOR A POSTER HOARDING

The Yorkshire and Northern Poster Advertising Association invite architects in practice or in training within the area of the West Yorkshire Society of Architects, York and East Yorkshire Society of Architects, Sheffield, South Yorkshire and District Society of Architects and Surveyors, and the Northern Architectural Association to submit in competition designs for a Poster Hoarding which can be erected in large or small towns and will fit in with its surroundings.

Assessors : Sir Enoch Hill (Chairman).
Mr. S. W. Milburn, M.C. [*F.*].
Mr. J. C. Amory Teather [*F.*].
Mr. C. W. C. Needham [*F.*].
Mr. Norval R. Paxton [*A.*].
Mr. Cyril Sheldon.
Mr. Arthur Taylor.

Premiums : £50, £30 and £20.
Last day for submitting designs : 31 March 1938.
Conditions of the competition may be obtained on application to the Hon. Secretary of any of the R.I.B.A. Allied Societies mentioned above.

TIMBER COTTAGE DESIGNS

The Timber Development Association is promoting a competition open to architects and architectural students of British nationality with the object of showing how accommodation for agricultural workers can be provided at an economic rent by timber-built structures. Competitors must submit designs for

(i) semi-detached cottages and
(ii) a group of three cottages.

Assessors : Sir Guy Dawber, R.A., F.S.A. [*F.*].

Mr. C. H. James, A.R.A. [*F.*].
Mr. Edward Maufe [*F.*].
Mr. John Gloag [*Hon. A.*].

Prizes : £100, £50, £25 and six special mention awards of £10 each.

Last day for receiving designs : 2 May 1938.

Conditions of the competition may be obtained on application to The Secretary, Timber Development Association, 47 King William Street, London, E.C.4.

FORTHCOMING COMPETITIONS

Other competitions which it is proposed to hold, and the conditions for which are not yet available, are as follows :—

BRIERLEY HILL, STAFFS. : NEW MUNICIPAL BUILDINGS
Assessor : Mr. Verner O. Rees [*F.*].

EDMONTON : NEW TOWN HALL BUILDINGS
Assessor : Mr. E. Berry Webber [*A.*].

GLOUCESTER : NEW SWIMMING BATH AND FIRE STATION
Assessor : Mr. C. F. W. Dening, R.W.A. [*F.*].

METROPOLITAN EAR, NOSE AND THROAT HOSPITAL : RECONSTRUCTION
Assessors : Messrs. Charles Holden [*F.*] and Lionel G. Pearson [*F.*].

NEWCASTLE-UPON-TYNE : NEW MUNICIPAL BUILDINGS
Assessor : Mr. Verner O. Rees [*F.*].

PRESTWICH : NEW MUNICIPAL BUILDINGS
Assessor : Mr. T. C. Howitt, D.S.O. [*F.*]

SOUTH SHIELDS : ASSEMBLY HALL AND LIBRARY
Assessor : Mr. Arthur J. Hope [*F.*].

WREXHAM : NEW TOWN HALL
Assessor : Mr. Herbert J. Rowse [*F.*].

MEMBERS' COLUMN

Owing to limitation of space, notices in this column are restricted to changes of address, partnerships vacant or wanted, practices for sale or wanted, office accommodation, and appointments vacant. Members are reminded that a column in the Advertisement Section of the Journal is reserved for the advertisements of members seeking appointments in architects' offices. No charge is made for such insertions and the privilege is confined to members who are definitely unemployed.

OFFICE ACCOMMODATION TO LET

To Let, Bloomsbury : Light Office, vacant early March. One large room facing Square. Central heating. Large cupboards. Recently modernised house. Professional purposes only. £60 p.a. inc usive.—Box 4238, c/o Secretary R.I.B.A.

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CHANGES OF ADDRESS

Dr. Thomas Adams [*F.*] has moved to 1 Gordon Square, W.C.1. Museum 4911.

Mr. J. R. Hilton [*A.*] is now practising at 9 Vyvyan Terrace, Bristol, 8.

Mr. T. W. Sharpe [*L.*] is now practising at Cheap Street, Sherborne and Yetminster, Sherborne, Dorset.

Architects' and Surveyors' Approved Society

ARCHITECTS' ASSISTANTS' INSURANCE FOR THE NATIONAL HEALTH AND PENSIONS ACTS

Architects' Assistants are advised to apply for the prospectus of the Architects' and Surveyors' Approved Society, which may be obtained from the Secretary of the Society, 113 High Holborn, London. W.C.1.

The Society deals with questions of insurability for the National Health and Pensions Acts (for England) under which, in general, those employed at remuneration not exceeding £250 per annum are compulsorily insurable.

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Members wishing to contribute notices or correspondence must send them addressed to the Editor not later than the Tuesday prior to the date of publication.

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